

MARINE REVIEW

WITH WHICH IS CONSOLIDATED
THE MARINE RECORD.

[WEEKLY.]

[ESTABLISHED, 1878.]

Vol. XXIX

Eastern Office,
1023 Maritime Bldg., New York City.
Chicago Office, 373 Dearborn St.

CLEVELAND, O., FEB. 4, 1904.

Published every Thursday at 39-41 Wade Bldg.
by the Marine Review Pub. Co.

[Entered at Cleveland Post Office as second-class matter.]

Subscription \$3.00 year.
Foreign \$4.50 year.
Single Copy 10 cents.

No. 5

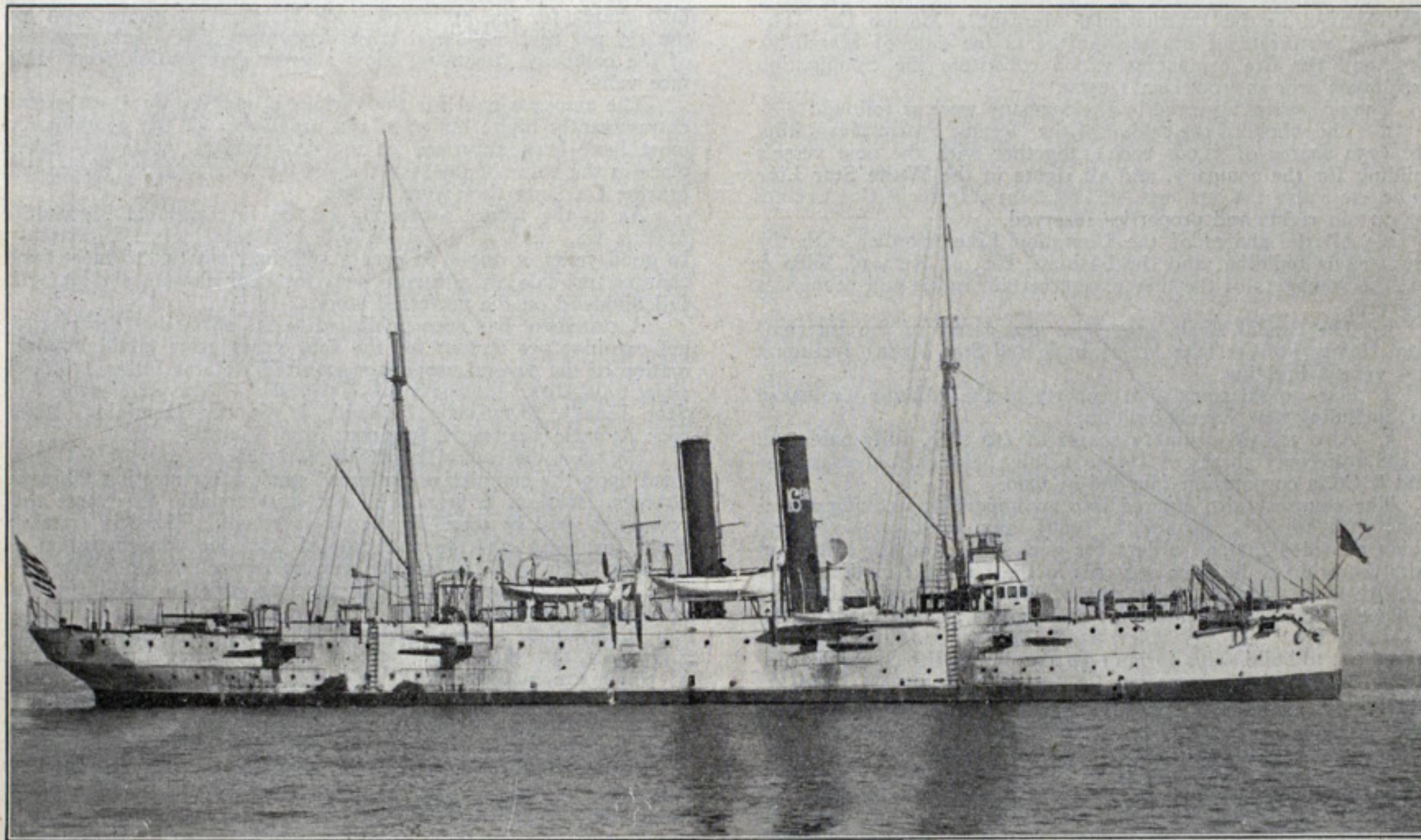
REPORT ON THE GARDNER BILL.

In recommending the Gardner bill authorizing the appointment of a commission to investigate the need of government aid to American shipping the house committee on merchant marine and fisheries, to whom the bill was referred, made a powerful report in its favor. The report is in part as follows:

"We flatter ourselves justly that we are a leading nation in all that makes a nation great and yet we are a subverient nation and a helpless nation in one of the great factors of national wealth and national dependence. Other nations carry our produce to the markets of the world. In the fiscal year 1902 of the total of exports and imports to Europe and from Europe, the enormous sum of \$1,472,591,921, only 3¼ per cent. was carried

is being urged very strongly, and which has the support in the platforms of both parties, is a recurrence to the ancient provision for discriminating duties. It is sufficient for the purpose of this report to state that, in the estimation of a large body of intelligent students of the subject, that remedy is impossible of application without enormous injury to our foreign trade, an injury, too, at a time of all other times when our situation in the matter of foreign trade is the most delicate and the most endangered.

"It is sufficient for the present purpose to say that the adoption of discriminating duties in favor of American ships, while it would be ineffective, inasmuch as we are not prepared to carry a tenth part of our foreign commerce in our own ships at this time, would so disturb our relations with foreign countries as to



The Second-Class Cruiser Tacoma, Speed 16.62 Knots.

[Built by Union Iron Works, San Francisco, Cal.]

by American vessels, and had it not been for the presence and existence of the American Line, sustained by postal subsidy, the total of our trade with Europe carried under the American flag would not have exceeded one-sixth of 1 per cent. But this commerce came into the United States safely and abundantly provided for by the great zeal we have manifested in making our harbors deep with water and secure with lights and all the appurtenances and appliances for safe and speedy navigation, and practically, as has been shown, all of it inured to the benefit of foreigners. For the carrying of that trade we paid during that same period of time, nearly \$200,000,000 for freight, paid to the foreigner, paid for the interest on foreign investment in ships and paid for the labor of foreign workmen. The \$200,000,000 was taken out of the pockets of the people of the United States, where it belonged, and where it could easily be lodged and carried away and distributed among the various industrial features of Europe. While this is going on we are not increasing in our relative position in the world. We are growing in production and diminishing in carrying power. We are growing in the demand and necessities for markets, and we are shrinking in our ability to seek markets.

"The necessity for some action is made startlingly manifest by the testimony of ship builders and ship owners who have appeared before this committee, and it may be said, with propriety, that the committee is unanimous in the opinion that some action should be taken by the government in this important crisis; but in this case, as in nearly all cases involving matters of so much importance, there is a difference of opinion as to what the remedy ought to be. It may be said that there are radical differences of opinion among public men, and even among those who have given their most earnest attention to the subject, as to the things that congress ought to do in this behalf. One proposition, which

produce paralysis, if not panic, in our business. But, however this may be, there is a wide difference of opinion as to the right thing to be done.

"Then comes the proposition of free ships, by some believed to be a deadly blow at the whole doctrine of protection, and by others upheld and advocated because of that very fact, and then comes the great variety of opinion as to the essential points in dispute. If there is to be aid at all given by the government, shall it be in the form of subsidy upon tonnage or subsidy upon the carrying of the mails, or in what form and under what system shall this aid be given? Therefore, while all intelligent and patriotic men apparently believe that something ought to be done, there is a wide divergence upon what and how.

"Realizing all these difficulties, the committee has decided to ask congress to authorize a commission composed of senators and representatives to be selected by the presiding officers of the two houses, authorized to sit during the session and during the vacation, and be ready to report, on the first day of the short session of this congress, the opinion of such commission as to the proper steps to be taken. It may be said that everything that can be known is known now. That is hardly a fair statement. Until the last few months there has been utter indifference manifested about this whole subject in a great section of the United States, and the people of that section, the interior of the states west, are beginning to be interested by this legislation. The people in the west and interior of the country seem to have been taught that this whole scheme was a scheme for the enrichment of the few, and that the great public had no interest in it.

"That sentiment, fortunately, is rapidly vanishing, and strong appeals to the committee to take action have come from the boards of trade at Denver, at Topeka, and other points in the

great west and middle west. So it is believed that this commission, if authorized by congress, can, without any considerable expense, take the views of distinguished and prominent and intelligent men of all shades of opinion and bring to the knowledge of congress a statement of facts and a compilation of information that will aid congress greatly in the discharge of a duty that seems at this time to be absolutely imperative. It is therefore recommended that the bill be amended as suggested and passed."

INTERNATIONAL MERCANTILE MARINE CO.

— By an Occasional Correspondent.

It is a difficult matter to obtain accurate and detailed information concerning the exact financial position of the International Mercantile Marine Co. but it is certain that the payment of a dividend for the past half-year upon the preference shares of Frederick Leyland & Co., one of the constituent corporations of the combine, has been postponed. An announcement to this effect was made in London about two weeks ago. Since the absorption of four great British steamship lines by the Mercantile Marine Co., a considerable amount of reticence has attended the administration of the affairs of the parent concern—a reticence which suggests that the finances of the corporation are not in a particularly flourishing condition. As it is well known, the International Navigation Co. was registered under the laws of New Jersey in 1893. The capital was very largely increased in September, 1902, when the name was changed to the International Mercantile Marine Co. The amended certificate of organization bears the date of March 30, 1903, and the five companies which constitute the combination were taken over as from Dec. 1, 1902.

The properties acquired by the company were as follows:

1. The whole of the capital of the Oceanic Steam Navigation Co. (750 shares of £1,000 each), together with the new vessels building for the company, and all rights in the White Star Line name, etc.; also the business, etc., of Ismay, Imrie & Co., excluding certain rights and properties reserved.

2. All the shares of the Dominion Line together with the new vessels building, and the business, etc., of Richard Mills & Co., the managers of the line, except certain rights and properties reserved.

3. The capital stock, properties and assets of the International Navigation Co. (the American & Red Star Lines), including new vessels building.

4. The capital stock and property of the Atlantic Transport Co., including new vessels building.

5. Also 118,468 ordinary shares of £10 each, fully paid, and 58,708 preference shares of £10 each, fully paid, of Frederick Leyland & Co. a corporation founded in 1900.

The company also entered into an important working agreement with Messrs. Harland & Wolff, ship builders of Belfast, which provided that all orders for new ships, and for heavy repairs requiring to be done at yards in the United Kingdom, were to be given to that firm, the company, however, reserving the right to place orders for new steamers and repairs at ship yards in the United States. On the other hand, Messrs. Harland & Wolff agreed not to build ships for any persons not in the combination—except the Hamburg-American Co.—so long as orders from the combination kept their works fully employed. Harland & Wolff were to be paid the cost of the work plus 5 per cent. on new ships, 10 per cent. on new machinery in old ships, and 15 per cent. on repairs. This agreement is to continue for ten years, and is terminable thereafter only on five years' notice on either side. In the case of the White Star Line, the shares were valued upon the basis of capitalizing the net profits for 1900 at 10 per cent., and the total sum paid to the White Star stockholders is said to have been \$53,497,100, of which \$15,736,180 was paid in cash, and the remainder in common and preferred stocks of the new company.

The Dominion Line stock was valued on substantially the same basis as the White Star Line—the method of payment being also the same, viz: 25 per cent. in cash, 75 per cent. in preferred stock, and 37½ per cent. in common stock.

The aggregate valuation of the American Line and the Atlantic Transport Line was \$34,158,000, subject to \$13,686,000 5 per cent. bonds of the International Navigation Co.

The consideration paid for the securities specified above of the Leyland company was \$11,736,000 in cash. In the case of this company, it will be observed that the whole of the issued capital was not acquired. Practically the whole of the common stock was bought, but less than one-half of a total issue of 141,435 preference shares was taken over. There were also £500,000 in 4 per cent. debentures outstanding.

The following table shows the method of payment for the various properties. The figures have not, it is believed, appeared in print up to this time, although they may possibly have been published in England.

| | Cash. | International Mercantile Marine Co. Preferred stock. | Common stock. |
|---|--------------|---|---------------|
| White Star Line | \$15,736,180 | \$25,174,000 | \$12,587,000 |
| American and Atlantic Transport Lines | 15,844,000 | 18,314,000 | 9,157,000 |
| Leyland Line | 11,736,000 | | |

The allotment of common stock appears to have been a bonus payment equal to 37½ per cent. upon the valuation. The controlling interest in the Leyland Line was owned, according to the New York newspapers, by J. P. Morgan & Co., and the ownership

was given as a reason for the purchase price being paid entirely in cash. Of this, of course, there is no proof.

It will be seen that the bulk of the share capital of the undertaking has been allotted in part payment of the properties acquired. The cash part of the purchase prices was provided by the sale of \$50,000,000 4½ per cent. collateral trust bonds of the International Mercantile Marine Co. to an underwriting syndicate, whose members received for every \$10,000 in cash \$10,000 in bonds, \$500 in preferred stock, and \$5,000 in common stock.

The nominal capital of the company and the amount at present issued or outstanding is, it is believed, as follows:

| | Nominal amount. | Amount issued or outstanding. |
|--|-----------------|-------------------------------|
| Common stock | \$60,000,000 | \$49,931,000 |
| Six per cent. cumulative preferred stock. 60,000,000 | | 52,302,000 |
| Four and one-half per cent. collateral trust debentures | \$75,000,000 | \$52,000,000 |
| International navigation 5 per cent. first mortgage gold bonds | 20,000,000 | 13,686,000 |
| Fred. Leyland & Co., 4 per cent. first mortgage debentures | £ 500,000 | £ 500,000 |
| Fred. Leyland & Co. 5 per cent. cumulative preference stock | 1,414,350 | 829,140 |

The present market quotation for the common stock is \$5 per \$100 share; for the preferred stock \$20 per \$100 share; and for the 4½ per cent. collateral trust debentures, \$98. The securities of the company, therefore, show a great depreciation from their face value.

The amounts paid for the various properties were, of course, extravagantly high; but even the organizers of the combination must have been surprised at the depreciation which has taken place in the value of the securities of the International Mercantile Marine Co. since they were issued.

As to the future prosperity of the International Mercantile Marine Co., very little can be said with any degree of certainty. In good years, it ought to earn a sufficient amount to meet fixed charges, provide an adequate sum for depreciation, and pay the full dividend on the preferred stock.

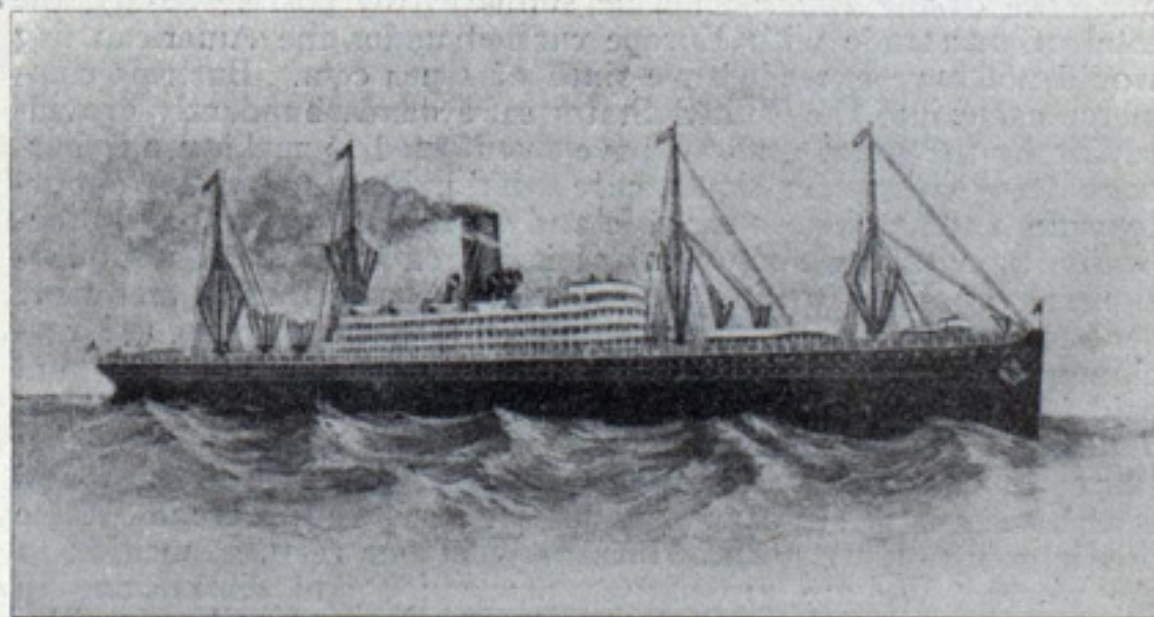
A statement has been published to the effect that the average net earnings per annum for the four years prior to the amalgamation of the several properties acquired were as follows: White Star, \$2,063,675; International Navigation (American and Red Star Lines), \$1,116,000; Leyland, \$1,565,000; Dominion, \$628,000; Atlantic Transport, \$735,000; total, \$6,107,675.

This amount would hardly be sufficient to pay the full dividend upon the cumulative preferred stock, after meeting the fixed charges. But, of course, it is not unreasonable to expect that economies will be made in the management. There is certainly room for them, and, as a matter of fact, the administration of the Dominion Line has already been transferred to the White Star Co. In addition, economies in connection with the Mediterranean service are being carried out.

It should be remembered that the company owns or controls a fleet of 135 ships, representing approximately 1,000,000 tons, in which are included some of the very finest steamships afloat. It also possesses valuable assets in the form of real estate, investments, stores, machinery, etc. The whole of the share capital is held by voting trustees, who cannot be compelled to deliver definitive certificates until October, 1907, so that the stockholders can have no voice in the control of the business for the coming three years and nine months.

LAUNCH OF THE DAKOTA.

The Dakota, building at the yard of the Eastern Ship Building Co., New London, Conn., for the Great Northern Steamship



Steamship Dakota for the Great Northern Steamship Co.

[Built by Eastern Ship Building Co., New London, Conn.]

Co., will be launched on Saturday next. She is a sister of the Montana, launched some time ago. These vessels are by far the largest ever constructed in the United States. They are intended for Pacific trade in conjunction with the Great Northern railway. They have been very completely described hitherto.

The report of the harbor master of Toronto shows that during 1903 the number of vessels arriving at the port was 3,164, a decrease of 107 in comparison with 1902.

DOCK DEVELOPMENT AT LIVERPOOL.

Plans to Maintain the up-to-date Character of the Port—Changes in Hamburg-American Schedule—British Ship Owners' and Liquid Fuel—Liverpool Marine Insurance Co.'s Balance Sheet.

Liverpool, Jan. 23.—In a recent letter I had occasion to outline the many important new dock works that are in progress here for maintaining the up-to-date character of the port, and now the Mersey Docks and Harbor Board have just disclosed a further dock improvement scheme which will necessitate the expenditure of close upon \$2,400,000. These new works briefly include the provision of two new branch docks at the Wapping system, with the requisite sheds on the quays; the building of a new passage 100 ft. in width between the Queen's and Wapping docks, together with the deepening of the Wapping dock, the estimated cost of which is \$2,159,200. A further sum of \$189,200 is to be spent in the building of double story sheds at the new Sandon dock, and additional railway communication with the same. This latter dock, which is in course of construction at the present time, is costing a large sum of money, and will be perhaps the finest deep water dock on the estate. On its quays are to be built double-story sheds instead of single-story as was at first intended, and every inch of space is to be used for the purpose of handling cargoes of the large deep-draught steamers. While details of these new works have only just been made known, they, however, form a part of the great scheme of dock alterations and improvements authorized by parliament some four or five years ago, and for which borrowing powers were obtained for the large sum of \$14,248,000.

In this connection reference may be made to the progress being made in the re-arrangement and reconstruction of the Brunswick dock and new river entrances which are comprised in this great scheme. Although the completion of the work cannot yet be chronicled, the time when the magnificent new entrances to the dock will be available for shipping is now at hand. As a matter of fact, the water has already been let into the lock to a certain height, and the operations in the dock itself are in a forward state. Owing to the position and trend of these entrances, a ship 1,250 ft. long could enter the dock and be berthed without difficulty. They have been described as a standing monument to the engineering skill of Mr. A. G. Lyster, the dock board's engineer, and have taken over three years to build.

From the sailing list which has just been issued by the Hamburg-American Line, it appears that after June next the intermediate steamers of this line, namely the Pennsylvania, the Pretoria, the Patricia and the Graf Waldersee, which at present call at Plymouth outward and homeward bound from New York, will make Dover their English port of call in preference to Plymouth. From Plymouth these steamers have usually proceeded to Cherbourg, whilst on the outward voyage they have touched at Boulogne, but under the new arrangement no French port will be utilized by the intermediate steamers. The express service in which the Deutschland, the Furst Bismarck, the Auguste Victoria, the Blucher and the Moltke are engaged will call at Plymouth homeward from New York, as in past years, but outward bound they are announced to call at Dover instead of Southampton.

Ship owners here are exhibiting much interest in the increasing use of oil as fuel on many steamers, and it is just made known that the British admiralty is not only extending the installations of oil fuel furnaces in existing warships, but is providing for the consumption of liquid fuel by vessels soon to be constructed. The Britannia, which is to be built at Portsmouth dock yard, will be started in March, and an order has been issued that her double bottom is to be specially constructed to hold oil fuel. The sister ships of the Britannia are also to be provided with tanks in the double bottom sections, and probably new ships of other classes will be similarly built. The details connected with the construction and riveting of the double-bottom sections have recently been the subject of precise instructions from the chief constructor's department in London.

The salt shipments for 1903 have just been made known and disclose a falling off of 26,545 tons. The total export and coastwise shipments were 862,048 tons, Liverpool's share being 2,000 tons behind last year, while the Manchester ship canal was 4,000 tons less. Fleetwood shipments, however, showed an advance of 6,000 tons. The greatest decrease in exports was to the United States, Africa, Australasia, Germany and Belgium, while the coastwise trade fell away 12,000 tons. The figures for December alone were 4,000 tons below the corresponding month of last year, although the Cheshire trade was 8,000 tons better.

The several Liverpool marine insurance companies have this week issued their annual balance sheets, which show on the whole that the past year has not been an unsatisfactory one. The Union Marine Insurance Co. have earned sufficient to make a distribution to the shareholders of 17½ per cent. on the paid up capital of the company. The premiums received during the year, after deducting returns and re-insurances, amount to £471,876-17-5, the amount insured being £66,389,874, of which £54,701,715 had run off, leaving the outstanding risks on Dec. 31, 1903, £11,688,159. The Maritime Insurance Co. report having earned a profit of £38,784-5-9, and recommend the payment of 10 per cent. dividend on the paid up capital of the company, after transferring £20,000 from underwriting expense account to the reserve fund, which now amounts to £160,000, and the establishment of an internal re-insurance account, towards which £10,000 has been transferred from the profit and loss account. The net premiums

on risks taken during 1903 amount to £250,534-7-6, of which £124,922-7-6 are still outstanding. The Standard Marine Insurance Co. have earned a profit of £49,613-0-6, out of which the directors propose to pay 10s. per share, which is at the rate of 12½ per cent. per annum on the paid up capital of the company, and carry forward £42,113-0-6 to next year's account. The net premiums taken during 1903 amount to £111,400-9-7, representing a liability of £13,566,985, of which £11,317,745 had run off to Dec. 31, leaving £2,249,240 then pending. The Reliance Marine Insurance Co. have a credit balance on the year's working of £51,293-16-5 out of which the directors have transferred the sum of £10,000 to the reserve fund, which now stands at £110,000. They recommend a dividend of 10 per cent., carrying forward £31,293-16-5 to the credit of next year's account. The net premiums taken for the year amount to £128,794-14-1 on a liability of £38,186,723, of which £2,356,358 remained at the close of the year.

There has also been issued this week the 102nd annual report of the Liverpool Underwriters' Association, which want of space will only permit me briefly to refer to. The association is using its powerful influence to obtain the passing into law of the marine insurance bill which was first introduced into parliament in the year 1894. The bill aims at consolidating the existing law governing insurance and not altering in substance its provisions. The association is also using its efforts in conjunction with other commercial bodies to induce the government to abolish the differential treatment under which marine insurance, as compared with other forms of insurance, has so long suffered to its material disadvantage. It has also interested itself in the various extensions, reconstructions and other improvements which are being carried out by the Mersey Docks and Harbor Board with the view of enabling the port to keep pace with the requirements of its trade and commerce. These improvements will, it is hoped, open up the possibility of providing cheaper and more effective communication between the docks and the inland cities and towns, of which Liverpool is the natural port and gateway. The question of improving the aids to navigation, including the pilotage service in the river and gulf of St. Lawrence is, the association is informed, being earnestly investigated by the Canadian minister of marine. The report also observes that the committee have observed with deep concern that notwithstanding all the endeavors which have been made for many years to bring about more careful packing, handling and transportation of American cotton, the condition in which this staple generally reaches the importer is still highly discreditable. The damage during the past season has been most serious, and far in excess of any previous experience, and the committee have been in communication with the Liverpool Cotton Association with a view to concerted action being taken, which without unduly hampering the trade would do something towards improving the present most unsatisfactory state of things. The number of fires which have occurred on board steamers during the year, namely 304, and the very disastrous consequences in many of the cases have caused the attention of the association to be specially drawn to the matter. From information supplied to the committee it would appear that smoking in the holds and on the wharves during the process of loading and discharging accounts for several of the more important cases. The committee confidently hope that ship owners will be able to issue and enforce such instructions and rules as will effectually put a stop to this most dangerous practice. And as it has been suggested that in some cases the fires may have extended by reason of defects of a structural kind in the vessels, the committee have brought the matter under the notice of Lloyd's Register Society. The report concludes with the list of casualties for the year, and the following reference to new tonnage: The aggregate tonnage produced by the ship yards of the United Kingdom during 1903 was 1,258 vessels of 1,409,630 gross tons, as compared with 1,368 vessels of 1,616,235 gross tons for the year 1902. There is thus a diminished output of 110 vessels and 206,605 tons.

During the next week, at the Chamber of Shipping, London, it will be ascertained and declared the result of the poll which is now taking place among the sailing ship owners of the United Kingdom for or against the formation of an International Sailing Ship Union. The French and German owners have decided for the union to a man almost, but the final decision rests with Great Britain as the principal owner of sailing ships in Europe. I am able to say that from reports to hand and information in the possession of Mr. R. W. Leyland here, who first suggested the movement, that the establishment of the union may be regarded as a certainty. The waverers are gradually being influenced to join with those who are in sympathy with the union, and but a small percentage of British owners now remain outside the fold.

The result of the poll with regard to the four sections of the Bristol Corporation dock development bill was arrived at yesterday afternoon. The proposed re-classification of dock dues was approved by 13,374 votes, while 588 voted against. Ship owners say the new schedule in no sense prejudices them. For the suggested extension of British boundaries, so as to bring in the rising township resulting from the development of Avonmouth docks, 15,019 voted, while 431 only were against it. The other parts of the bill were also approved by large majorities.

The R. G. Packard Co. of New York was the only bidder for the new dry dock at the navy yard, New York. Their bid was \$1,082,246. The limit of cost of the dock was fixed by congress at \$1,000,000. No decision has yet been reached by the navy department as to whether it will advertise for further proposals.

SHIP BUILDING IN SCOTLAND.

No Improvement Noticeable though Costs are Low—International Sailing Ship Owners' Union—Insurance of War Vessels.

Glasgow, Jan. 21, 1904.—The year has not advanced far without the raising of the labor question in the ship building industry. Since my last letter was written the Clyde ship building employers have intimated to the officials of the Boilermakers and Iron Ship Builders' Society that they propose to reduce piece-work rates by 5 per cent. next month. This is the same reduction as the north coast of England ship building employers have effected with their men, and these employers have also notified reductions to the machinists, which the Clyde employers have not yet done. Trade in the ship yards is so bad that the "black squad" are not likely to reject the 5 per cent. though they may demur about it, and call for conferences and gain some time that way. Their officials are cute enough to know that it is a losing game to strike on a falling market. Besides, everybody has foreseen for some time past that a reduction in ship yard wages here was inevitable to keep the industry going, and the only wonder is that the reduction has been so long deferred. The employers have been considerate in putting off the evil day as long as possible. It is just a year since the last reduction.

There is no improvement in ship building, though costs are low and pig iron is quite flat. The event of the week has been the launch of another cruiser of the County class from the yard of the London & Glasgow Ship Building Co., Glasgow, viz., the Roxburgh of 450 ft. length; 68 ft. 6 in. breadth, molded; 38 ft. 6 in. depth, molded, to upper deck; 21 ft. 9 in. mean load draught; 10,700 tons displacement; 21,000 I. H. P.; and 22¼ knots speed. This is the third and last of the cruisers of this type ordered from this company, and she follows very closely on the lines of her predecessors, the Monmouth and Cumberland. The machinery, supplied by the builders, consists of two sets of triple-expansion engines, the diameters of the cylinders being 41½, 65½, 75½, 73¼ by 42 in. stroke. The steam generators are a combination of cylindrical and Durr water-tube boilers. The ratio of grate area to heating surface is one of the details of design bearing directly upon the efficiency of all boilers, but particularly of those of the water-tube type. At Yarrow & Co.'s works there have been several experiments on this matter, with a boiler equal to 1,200 I. H. P. This boiler had 1,008 tubes, each 1¾ in. outside diameter, with an average length of 6 ft. 9¼ in. The first test was conducted with a grate having 53 sq. ft. of grate, and with 3,217 sq. ft. of heating surface, giving a ratio of 1 to 60.7, while in the second test the grate was reduced to 40 square, with a slight change in the heating surface, giving a ratio of 1 to 78.2 in. The results showed a much higher evaporative efficiency with the smaller grate, each pound of fuel consumed giving with the small grate 10.57 lb. of steam, whereas in the other test it only gave 9.96 lb. It was allowed that irrespective of this the same boiler should give an equal volume of steam, and thus the quantity of coal consumed per square foot of grate had to be increased. Thus with the larger grate the rate was 29.7 lb. of fuel, and with the less area 39.3 lb. To burn the greater quantity more draft was required viz., 0.75 in. as compared with 0.56 in. The greater efficiency of the small grate would materially reduce the coal bill in a large ship, and thus the results are of importance. The reason offered in explanation of the result of the more intense combustion is that the gases are burnt more quickly, and are not so likely to come into contact with the cold surface of the tubes in an unburnt state, the cold surface tending to extinguish the flame in the same manner as the wire gauze which surrounds a Davy lamp. The smaller grate is more convenient for stoking, and moreover the area of the boiler compartment for a given power can be reduced.

PROPOSED INTERNATIONAL SAILING SHIP OWNERS' UNION.

M. Alex. Jacobson, one of the chief French promoters of the proposed International Sailing Ship Owners' Union has been here in connection with the union. He has had conference with those who have taken the principal part in promoting the union from the British side. He says that fully 70 per cent. of the Paris, Bordeaux, Nantes, Havre, Marseilles, and Bayonne owners have signed the union memorandum, and he believes they will be practically unanimous when the adjourned conference meets in London on the 27th inst. He regards the union as not only one of the fruits of a better understanding between the two countries; it is one of the best assurances of the continuance of that understanding, for the Anglo-French alliance was founded alike on sentiment and on solid interest. He denies that the union would prove unworkable because of its foreign elements, and pledges that the French owners will remain loyal to the union. Combined with the British they could do anything. He considers the union already to be an assured success.

At a general meeting of Greenock Chamber of Commerce a report was submitted by the shipping section to the effect that this section has been very active during the last half-year; questions of the deepest interest to ship owners, involving the future prosperity of ship owning in this country having been discussed. (1) Shipping bounties. The disastrous effect of the building and navigation bounties granted by foreign countries, especially France, has been severely felt during recent years, and it is only natural that Greenock, whose staple industries are those of ship building, ship owning and sugar refining, should take a prominent part in any agitation for the abolition of bounties of whatever nature. The shipping section passed the following resolution. "That the section now ask the chamber to call upon the British

government to prohibit the entry of bounty-fed ships into British ports, or to take such steps as will effectively counteract shipping bounties." (2) Board of Trade on questions affecting the mercantile marine. A sub-committee of the shipping section was appointed to draw up objections to certain recommendations made by a committee appointed by the Board of Trade to inquire into certain questions affecting the mercantile marine. This report was adopted by the section, approved of by the directors and copies were also forwarded to the president of the Board of Trade, to shipping chambers and shipping associations and to the press. Mr. John Denholm, chairman of the chamber, said he was of opinion that the position with regard to bounties by the French particularly, had arrived at such an acute stage that Britain could not allow any opportunity to pass without referring in public to this crying evil. No doubt shipping bounties had been going on for many years, but they had only reached the acute stage during the last two years, and Chambers of Commerce and shipping associations throughout Great Britain were doing all they could by agitating the question in such a way that the government must feel it very shortly. They ask that the principle admitted by the Brussels sugar convention should be extended to shipping. The facts brought before the subsidies committee proved very conclusively that the system followed by the French nation had arrived at a stage when something would require to be done to preserve the ship-owning industries of this country. It seems curious that, while we were crying out against the bounties of French shipping, that the French sailing ship owners should be crying out about poor freights for carrying cargoes, and that they should be the first to agitate for some international association whereby they might regulate the freight. This much Mr. Denholm hoped that the British owners would preserve a market for themselves, and not join any association that would place the Frenchmen in a better position for earning a larger bounty than at present. But other ship owners do not agree with Mr. Denholm in this view. They do agree with him, however, in thinking it absurd and anomalous that at the present moment not only do we leave our markets open to foreign bounty-fed ships to come here, but we allow them to evade the regulations imposed on the British ship, whereby they have considerable unfair advantage in trading to our markets. A German-owned ship, under a charter on the Clyde, that was able to carry from the Continental ports a complete cargo of 2,100 tons, was able only on the outward voyage under the Board of Trade restrictions, to carry 1,850 tons all told, so that this ship enjoyed the advantage of a bounty which really amounted to the extent of 250 tons on the voyage against the British ship owner trading in our own markets. Many years ago timber cargoes came under a restriction as to the carrying of deck loads, and with good results, and a similar principle can be applied to cargoes of sugar, or ore, or any other class of commodity. On the subject of light dues, Mr. Denholm hoped that the government would take up Mr. McArthur's bill, and see it passed, so that light dues might be abolished for the following year. It was an interesting fact that while American ships paid us only £5,000 a year in light dues, our ships paid to America no less than £80,000. Mr. A. O. Leitch in turn made a reference to the proposed International Union, regarding which meetings had been held at Glasgow and Liverpool. He had intended to call a similar meeting of Greenock ship owners, but had refrained on seeing that shipping bulked so largely in the report of the chamber. He said it was proposed to fix minimum rates homeward, but not to restrict them outward; consequently, French sailing ships were to be allowed to cut us out as much as they liked, thus earning a bounty which enabled them to run all the rest of the time in ballast. That, he thought, was the weak point in the arrangement which had been agreed to by Glasgow and Liverpool. He thought that the feeling of the ship owners in Greenock was to the effect that, whilst undoubtedly a gain might be got out of an International Union by trying to get better charter party terms, doing away with the restrictions of the Australian colonies, and other matters, some of them had grave doubts about the possibility of carrying out with success a scheme fixing minimum rates of freight which were to rely solely on honor.

Some important experiments with a patent which should simplify considerably the present system of constructing turbines are being made just now at a foundry in Greenock. The patentee, an American, is personally superintending the work. The important feature of this new turbine is that it will be cast in one piece. So far the casting has given the utmost satisfaction, and there is reason to believe that the patent is a valuable one. Similar experiments in casting were made, I hear, in the United States, but it is said that the casting there left something to be desired.

PLACING INSURANCE ON WARSHIPS.

Large insurances on warships have recently been placed on the market, in some instances for the period while under repair, and in other cases while the vessels are being built. The Secretary of State for India insured for £194,000 on the Indian troopship, Dufferin, during construction at Barrow by Vickers, Sons & Maxim. "All risks" are included, from the laying of the keel until the vessel is finished and ready for sea. Several battleships and cruisers under the jurisdiction of the admiralty have been insured. H. M. S. Erne, torpedo destroyer, now fitting out at Jarrow-on-Tyne by Palmer's company, has been covered for £68,000. The Diamond has been insured against construction risks for £208,000 at the yard of Cammell, Laird & Co., the risk of placing machinery on board being included in this case; and £500,000 is covered on the Goliath during repairing, overhauling, and fitting out at Palmer's works on the Tyne. A yet larger insurance—for

£640,000—has been effected on the *Terrible*, repairing at Clydebank by John Brown & Co. All these insurances have come into force since the New Year. Underwriters' risk is practically confined to that of fire while the vessels are on the stocks, sea perils not operating until after launching, and these are the chief risks during trial trips, before delivery. In the case of new ships the full amount insured cannot be reached until the expiration of the builders' contract, the value augmenting as the work continues from the time of laying the keel. British warships are always uninsured except when in the builders' hands, the delivery to the admiralty terminating the insurance. As to foreign warships, in the case of the two new Japanese cruisers now on their way out from Genoa to Japan, these vessels, which are valued at £800,000 each, including the armament, are insured in this country for the voyage out. Risk of capture and other consequences of war are not included.

WAR SITUATION AS REFLECTED ON MARINE INSURANCE.

The uncertainty of the situation in the far east makes it increasingly difficult now to place war risks at moderate premiums on property afloat destined anywhere east of Hong Kong. Underwriters are acting on the assumption that war is certain, and that only the date of the commencement of hostilities is a matter of speculation. On the hulls of British steamers now sailing for Japan 1 per cent. has been charged, as against $\frac{1}{2}$ per cent. last week. Coal cargoes have gradually advanced from 1 per cent. a month ago to 5 per cent. by steamers of the British flag now sailing for Japan. Hulls of Russian steamers from Odessa for Vladivostok are quoted at 2 per cent., and cargoes by the same at almost prohibitive rates. Grain by American steamers from San Francisco to Yokohama cannot be insured under $\frac{3}{4}$ to 1 per cent. There is no market for shipment deferred later than January. With regard to speculative risks against a declaration of war within one month, the premium is now 60 guineas per cent. A longer period than one month is not insurable. Insurances can be effected now against the risk of Great Britain being compelled to take up arms, as a result of a war between Russia and Japan, at 10 to 12 guineas per cent.; and a premium of 15 guineas per cent. will cover the assured against the risk of a war between Britain and any European power arising from any cause.

A projected line of steamers between the Venezuelan ports of Puerto Cabello and Guanta and the Republic of Cuba is to consist of five vessels, each with sufficient capacity to transport 800 or 1,000 cattle. The contractor is to be restricted from raising his transport charges for cattle beyond a certain specified amount. The Venezuelan government, on the other hand, engage not to allow the establishment of another steam line for cattle transport from the Venezuelan ports to Cuba. The contract is for a year with renewal at option of the contracting parties. A large export trade is carried on between Puerto Cabello, Guanta, and other Venezuelan ports and Cuba by tramp steamers, the majority of which are Norwegian. It will be of interest to note whether this trade will now be suppressed. Norwegian ships have for some time past been cutting heavily into the traffic of British ships with Cuba.

For two weeks in succession the mails by the American Line have come in first. The American mails from the St. Louis arrived in London on Saturday morning last just after eight o'clock. The tender left Milbay docks for the liner shortly after eleven on Friday night, and the passengers and mails were landed at Milbay soon after Friday midnight. The postal train left Milbay docks at 2:45 a. m. Saturday and, running through with only a single stop at Exeter, reached London within the splendid time of four hours 14 minutes. Over 30 pair-horse vans were necessary to convey the enormous number of mail bags to the general post office. The Cunard mails this week did not reach Glasgow until Monday afternoon.

COMPARISON OF LIBERTAD AND OTHER BATTLESHIPS.

Engineering of London has just published what is probably the most complete description of a battleship that has ever appeared in a technical journal, for it occupies twenty-five pages of closely-printed matter and is copiously illustrated throughout. The battleship which has thus been honored is the *Libertad*, which with her twin, the *Constitution*, has just been purchased by Great Britain from the Chilean government. Chili ordered these battleships as a preparation for an emergency, but as the emergency subsequently did not develop she had no need of them, and consequently they were sold. An unusual degree of interest is felt in the designs of these two battleships. Naval experts have differed among themselves widely, as is well known, about the essentials of a typical battleship. Each of the leading powers pursues a slightly different policy from the others, and even the advisers of a single government invariably quarrel over types. Every battleship may, therefore, be called a compromise. In planning the *Libertad* and *Constitution* much greater independence and individuality seem to have been exercised. Of course, the Chilean authorities were consulted and gave their approval but the design was almost exclusively the product of a single mind. Sir Edward Reed, who is associated with the great ship building firm of Whitworth & Armstrong, had things pretty much his own way. That the workmanship on both vessels was of the highest order may be inferred from the fact that this firm built one and Vickers, Sons & Maxim the other. The problem that Edward Reed undertook to solve was finding the best way to get fighting efficiency at a moderate cost. He did not design a big vessel nor a heavy one, but he made a specialty of speed. That

quality is, of course, invariably sought in cruisers. Some experts think that a battleship need be in no particular hurry if she is only a formidable fortress. Sir Edward is not of that opinion, evidently. The *Libertad* on her trial trip developed a speed of 20.12 knots for six consecutive hours, and for short spurts did even better. Now until recently the best American battleships made only 17 knots. When the *Missouri*, over a shorter course, recorded 18.14 knots last October it was regarded as a brilliant achievement. However, the class of English battleship of which the *Russell* is a representative is designed to make 19 $\frac{1}{2}$ knots and the enormous vessels of which the *King Edward VII.* is the pioneer should do about half a knot better, only equaling, however, the speed of the recent acquisitions from Chili.

The designer of the *Libertad* and *Constitution* did not secure his end by introducing especially big engines. Each ship is able to develop only 14,000 H. P., while the *Missouri's* engines give 16,000 and the *Russell's* 18,000 H. P. In point of size the Chilean vessels are just a trifle smaller than the American vessel with which comparison has been made. The displacement of the former is 11,839 tons and that of the latter 12,300. The *Russell* is still heavier. The first great resource employed to get speed for the *Libertad* and her twin sister was slenderness. The ratio between their length and breadth is 6.14 to 1. The proportion between the same dimensions of the *Russell* is 5.36 to 1. The shape of the *Missouri* more nearly conforms to that of the *Russell* than to the outlines of Sir Edward Reed's products.

Something has been accomplished, too, by lightening the armor and guns. It will thus be seen that the vessels resemble the best armored cruisers of the day; but Engineering defines them as battleships. The *Libertad's* four big guns—two forward and two aft—have a caliber of 10 in., while those of the *Missouri* and *Russell* are 12 in. The armored cruiser *Tennessee*, now building for the United States navy, will carry four 10-in. guns. The armor belt of the *Libertad* ranges in thickness from 3 to 7 in. The barbettes are defended by 10 in. of metal. The gun positions of the *Russell* are shielded by 11 in., while the armor belt proper is 7 in. thick. On the *Missouri* the maximum thickness of the water line belt is 11 in., but her turrets have 12-in. plates. The *Tennessee* will be protected with from 3 $\frac{1}{2}$ to 6 in., with 5 in. for her casements and 8 or 9 in. for the barbettes. It should be added that the ratio between the *Tennessee's* length and breadth will be about 7 to 1, while her displacement is estimated at 14,500 tons, her engines are expected to develop 25,000 H. P. and her speed intended to be 22 knots.

A comparison of the offensive armament of the battleships and cruisers here mentioned is needed to complete the description. Reference has already been made to the big guns. The *Libertad* and *Constitution* each have fourteen 7 $\frac{1}{2}$ -in. guns, the *Russell* has twelve 6-in. pieces and the *Missouri* sixteen of the latter caliber, while the *Tennessee* is designed to mount the same. The secondary battery of the *Libertad* includes twenty-eight pieces, the largest being 14-pounders; that of the *Russell* includes twelve 12-pounders and six 3-pounders; the *Missouri* has twenty small pieces, the biggest being of 3-in. caliber; and the *Tennessee* should have no less than twenty-two 3-in. guns and twenty-six smaller ones.

An important feature of the mounting of the larger guns of the *Libertad* is their height above the water. The two 10-in. pieces in the forward barrette are at an elevation of 25 ft. The after guns are not quite so high. Four of the 7 $\frac{1}{2}$ -in. guns are mounted in casements on the upper deck, one on each side forward and one on each side aft. They are nearly as far up as the 10-in. guns. The other ten 7 $\frac{1}{2}$ -in. guns are on the main deck—five on a side. They have been placed close enough together to be covered by that portion of the armor which is 7 in. thick. Although these pieces are 10 ft. longer than the 6-in. guns so common on other war vessels, they are a little higher up and hence more advantageously placed for service when there is much rolling in a heavy sea. In a great variety of ways Engineering has compared these two battleships with the leading ships of other navies. According to Engineering the broadside guns of the *Libertad* are 5 $\frac{1}{2}$ in. higher than those of the battleships *King Edward VII.* and from 2 ft. to 2 ft. 8 in. higher than the 6-in. guns of three classes of British cruisers of which the *Diadem*, *Cressy* and the *Drake* are types. These and other characteristics of the new ships, Engineering thinks, are sure to prove suggestive to naval constructors all the world over.

NEW SERVICE BEGINS IN AUGUST.

It is announced from London that the Canadian government has entered into definite contract with the Allan Line of steamers for an improved mail service between Canada and Great Britain. A similar announcement was published in the Review last week as coming from Ottawa. It is now learned that the service is to begin next August with the new turbine steamship *Victorian* and to be supplemented later with a sister ship, the *Virginian*. The British terminal of the service, it is understood, will be Mallow, Ireland, all the year round, while the Canadian terminus will be Quebec in the summer time and St. John in the winter. The great point of interest in these steamers is the fact that they are to be propelled by turbines instead of by the ordinary reciprocating engines. The *Victorian* will be by far the largest steamer, as she will also be the swiftest of the Allan fleet. She will be fitted in the most modern style for upwards of 5,000 passengers, and is expected, by reason of the absence of the throbbing movement, inseparable from the ordinary steam engine, and the rapidity and unbroken steadiness of revolution in her shafting and propellers, to be at once noiseless and steady in a seaway, even while exerting all her great power.

NEWS OF THE GREAT LAKES

PERE MARQUETTE NO. 14.

As the accompanying photograph will show Pere Marquette No. 14 is an odd looking craft. She is designed especially for ferry service across the St. Clair river between Sarnia and Port Huron, the run being less than a mile. She was built to make her way against all manner of ice conditions, and as she operates right at the foot of Lake Huron, she will have much to encounter in the way of floating and windrowed ice. She is about to leave

Detroit for Port Huron and the trip will consequently be a test of her powers as an ice crusher. As her purpose is merely to ferry railway cars across the river she is provided with no shelter whatever. She is of steel construction throughout and has been given sufficient horse power to enable her to do her work effectively. She has twin propellers at each end and a rudder, both bow and stern, with two complete sets of steering gear. She takes her cars

on at the bow and has a wheel in each end of the pilot house for steering. Her trip across the river practically describes a "Y," making a half turn so as to hit the opposite shore bow on. She is 351 ft. 9 in. over all, 32 ft. 6 in. keel, 52 ft. beam and 21 ft. deep. She has two compound engines, 28 and 52 in. diameter by 36 in. stroke, driving two propellers forward and two aft, the shafts extending the entire length of the vessel. There are two thrust bearings on each shaft, one forward of engine and one aft, with slip coupling between engine and forward thrust bearing. She is equipped with steam turn-over gear and all pumps are independent. The boilers are four in number, 13 ft. 2 in. by 12 ft., allowed 150 lbs. working pressure and fitted with two 48-in. Morison furnaces. Each boiler has independent combustion chambers fitted with Howden draft the air being furnished by two Fuller Co. blowers direct-connected to double engines.

VESSEL JAM AT CLEVELAND BROKEN.

After practically a week of unrelenting work the vessel jam at the Superior street viaduct in the Cuyahoga river, Cleveland, was broken this week. It was a bigger job than anyone believed it would be. This jam, as known, was caused by the breaking away of the steamer William E. Reis of the Mitchell fleet during the flood. She struck the steamer James E. Eads of the Steel Corporation's fleet on her downward passage, and a moment later the J. W. Moore, owned by Frank Osborn and others. Nothing obstructed these vessels until the Superior street viaduct was reached when they became tightly jammed between the abutment of the viaduct and the east dock of the river. The Moore was jammed against the dock with the Reis leaning heavily against her. The Eads occupied the most westerly position of all with her bow pressed against the draw of the Center street bridge. Various efforts were made to dislodge the steamers. After working for two days on the Eads, even cutting off 3 ft. of her fan tail, it was found impossible to move her so long as the Reis maintained her position. Attempts had been made to move the Reis by forcing steam from a tug into her windlass but it proved unavailing. In fact after several hours of effort all that the tugs could do was to move the Reis about 6 ft. The Baltimore & Ohio railway tracks pass south of the viaduct and it was resolved to bring a couple of locomotives to the aid of the tugs. When the locomotives began to pull, however, it was found that the chains were too light and they consequently broke. With two locomotives and a fireboat working, however, the Reis was finally pulled from off the Moore. The fireboat then went in between the Eads and Reis and broke up the ice and driftwood that was wedged

in between them. Meanwhile two tugs were pulling on the Eads and they finally cleared her of the Valley bridge draw. It was a hard pull, however, as it took the two tugs about four hours to tow the big steamer a little more than 1,000 ft. Both the Reis and the Eads were later taken to the dry dock to be examined. The Reis will have one of her boilers taken out and will need other repairs. The injuries to the Eads were comparatively light. The Moore is the worst injured of all. She was practically crushed

into the dock and pumps had to be continually at work to get the water out of her. The abutment of the bridge is forced up through her side and bottom for a distance of 8 ft. up to her tank top. The break is on the starboard side. It will take several days to release her.

UNIFORM LAKE RULES.

As a preliminary to joint modification of the existing rules of navigation on the great lakes President

William Livingstone and Mr. Harvey D. Goulder, counsel for the Lake Carriers' Association, met in Buffalo this week with Francis King, secretary of the Dominion Marine Association; H. H. Gildersleeve, Capt. Thomas Donnelly of Kingston, John Bertram, A. A. Wright and Capt. F. Crangle of Toronto. At the present time the Canadian rules of the road and the White law of the United States differ materially in many ways and the purpose of the conference was to recommend such changes as might tend to make them uniform.

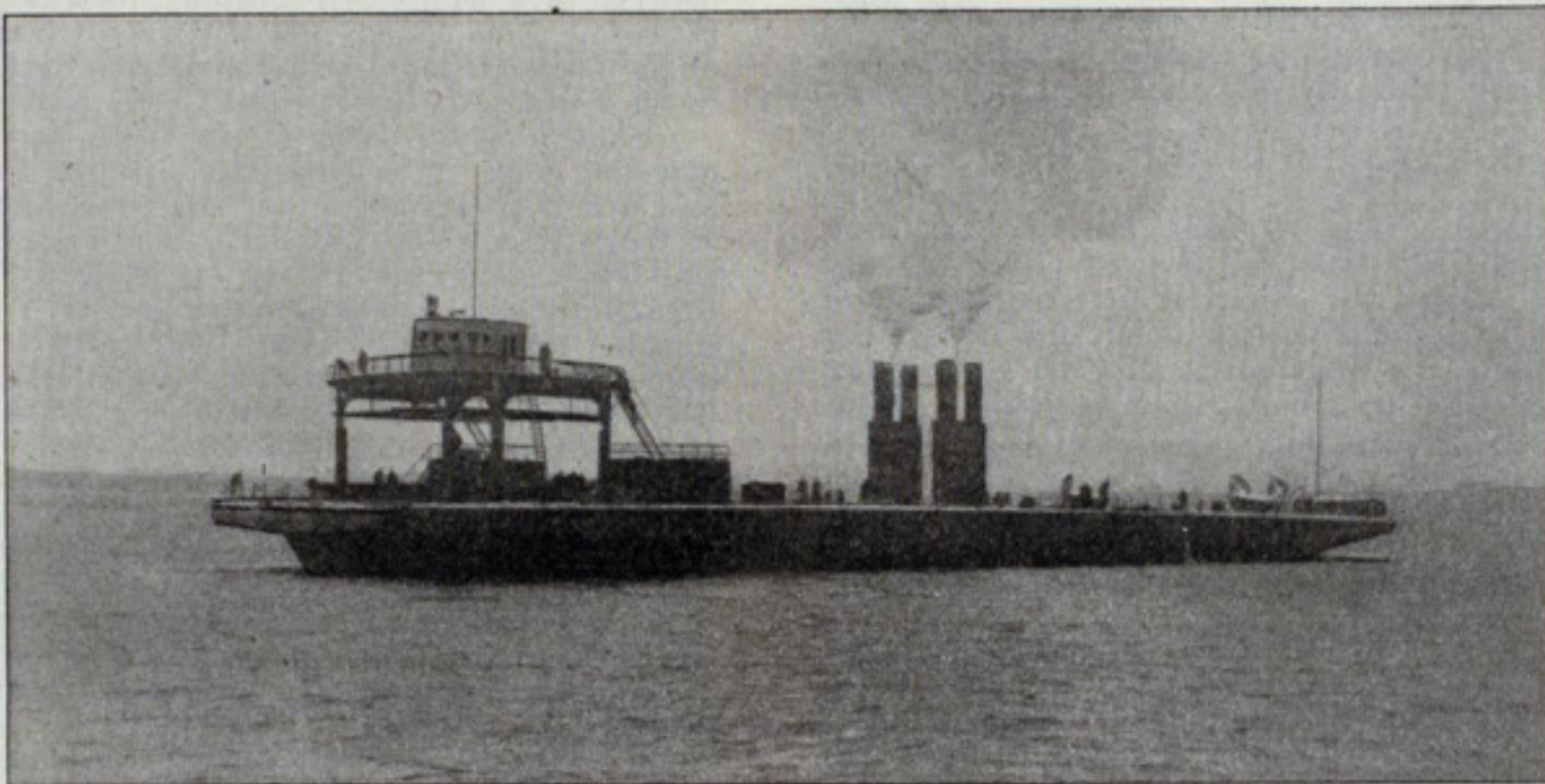
The two committees went over the White law and decided upon the points of difference with the rules of the Dominion. While nothing definite was decided upon the Canadian representatives made a summary of the points to be adjusted and after determining upon those in which both sides agree will send to the officers of the Lake Carriers' Association such suggestions as they have to make and another meeting will be held in the near future when steps will be taken to have the matter taken up at Ottawa.

The Canadian members of the committee are of the opinion that there are a great many imperfections in the pilot rules and White law and are not ready to accept them entirely in the shape in which they now stand but the purpose of the meeting was to get together as far as possible and agree upon changes which are to be made in order to bring about absolute uniformity in the rules of navigation on the lakes.

While representatives of the big lake marine organizations from both sides of the international boundary were together the question of more lights in Canadian waters and more aids to navigation was also brought up, but no decided action was taken, all being referred to the future meeting.

The cargo steamer building at the Cleveland yard of the American Ship Building Co. for Henry A. Hawgood of Cleveland will be launched on Saturday morning at 11 o'clock. She will be named Umbria. She will be completed and ready for business by the opening of navigation and will cost \$280,000. The Umbria is a duplicate of the Wisconsin, built last fall, and is of the following dimensions: 440 ft. over all; 420 ft. keel; 50 ft. beam and 28 ft. deep. She will have triple-expansion engines with cylinders 22, 35 and 58 in. diameter by stroke of 40 in. Steam will be furnished by two Scotch boilers, 13 ft. 2 in. diameter and 11½ ft. long, allowed a pressure of 170 lbs. The Umbria will carry 6,800 gross tons.

Mr. Robert L. Ireland of the firm of M. A. Hanna & Co., who has been in the hospital for a few weeks as a result of an operation for appendicitis, is now at home and rapidly recovering.



Pere Marquette No. 14.

[Built by the Detroit Ship Building Co.]

CONSTRUCTIVE TOTAL LOSS.

Comment in lake shipping circles on recent losses of the kind known as constructive total losses, such as the Owen, Portage, Craig, Swain, Hutchinson and others would seem to indicate that this character of loss is not fully understood, even among some of the vesselmen. A common impression seems to be that a vessel is not a constructive total loss unless the actual cost of recovery and restoration, with the incidental expenses, properly chargeable, shall equal the required percentage. This percentage, when unmodified by policy stipulation, is 50 per cent. of the restored value. For some years the policies have contained a stipulation that the insured value shall be taken as the restored value, and in such case, if there be no other policy limitation, a constructive total loss exists only when the cost of recovery and restoration exceeds 50 per cent. of the insured value. In the last two or three years, in policies on the great lakes, a stipulation has been inserted that the cost of restoration and repair, speaking generally, shall equal 75 per cent. of the insured value. The principle, however, remains the same; simply the percentage necessary being changed.

The cost to be taken into account in determining whether a vessel is a constructive total loss is not, except in rare cases, the actual cost. The authorities state that it is not the actualities which must determine this question, but the high probabilities, i. e., the high probability that the cost of recovering and repairing the vessel will equal or exceed the required percentage.

A constructive total loss is a creature of the law. It is a loss arising outside of the policy and exists quite independently of any terms in the policy, which are usually in limitation of the general right. Perhaps as concise and comprehensive a definition as can be given is that of Chief Justice Marshall, given in 1808, that a technical (constructive) total loss originates in the danger of a real total loss. This definition conveys the whole idea of constructive or technical total loss, which is not necessarily that the vessel is so in fact, but that there is danger, *high probability*, of a real or actual loss, or, as it is frequently expressed that there is high probability that the vessel cannot be recovered and repaired for less than the required percentage.

Another feature of this character of loss is that it is optional with the insured in any proper case whether he shall treat the loss as a partial loss or as one constructively total. The insured can in a case which is a proper one of constructive total loss nevertheless regard it as a partial loss and recover through his underwriters up to the full amount of his insurance. The underwriters can in no case require that he shall treat it as a constructive total loss. It is required, however, by the general law, that if the insured desires to treat the loss (in a proper case) as one constructively total, he must, as a necessary prerequisite to such claim, abandon whatever remains of the property insured to the insurers, and his right so to do is to be determined as of the time abandonment is tendered. If at that time the high probability, based on the facts as they then exist, is that the property cannot be recovered and restored for a less sum than the required percentage, the total loss claim is good, and events happening thereafter cannot change the rights. Circumstances may so change that the property is thereafter recovered and can be or is restored for less than the required percentage, but this does not defeat the insurer's right to stand on his abandonment and claim the entire insurance.

If, so far as reasonable calculation can be made at the time the abandonment is tendered, it is in a high degree probable that the expense will exceed the required amount, the right to claim for a total loss exists. This necessarily must be determined by the opinion of men skilled in the business.

The insured may, in any case, withdraw his abandonment before it has been accepted by the insurers, but whether the abandonment was properly made or not, the insurers have the full right to accept it, and once having done so, the property becomes theirs and the insured must abide the result.

When such abandonment is made and either accepted formally by the underwriters or by their act, or is held good, it relates back to the time of the disaster on account of which it is made, and the subject of the insurance becomes the insurers from that date as effectually, as has been declared by the supreme court, as it could be conveyed to them by the most skillfully-drawn instrument.

It is sometimes said that the insurer can defeat the insured's right to claim a constructively total loss by recovering and repairing the vessel and tendering her back to the owners in a restored condition. It seems thoroughly well settled that this cannot be done except by agreement of the parties. The insurer can in no case, there being no agreement on the subject, require the insured to repair his property, even in case of a partial loss, and in case of constructive total loss, if the insurer shall, after abandonment tendered, assume to repair the vessel, he exercises a right of ownership and whatever he may say about not accepting the abandonment, he does accept it by his act of ownership.

After abandonment, however, both the insured and insurers have full right under the "sue and labor" clause, so-called, in the policy to recover the property and do such things as may be necessary to prevent its further destruction. There are a number of cases in which the vessel has been restored by the underwriters and tendered back, but it seems that in all such there was an agreement that this might be done. Some years ago there was a clause in the policy which required the insured to recover and restore the property, and if he failed, the insurer was authorized to, and the right to claim constructive total loss did not

exist (under the terms of this policy) unless, when so recovered and repaired and the loss was adjusted, as a partial loss the amount which the underwriters would then be required to pay would equal or exceed the given percentage. This gave rise to so many questions of fact for determination by a jury, as to whether the insurers had recovered promptly, repaired properly and restored within a reasonable time, etc., and it was so found to work against the insurer, that it was withdrawn from the policies generally some years since.

Just what amounts to such act of ownership as shall be taken as an acceptance of abandonment, notwithstanding a declared intention not to accept, must be determined in each particular case, the general doctrine being that anything which goes beyond the immediate preservation of the property is an act of ownership and an acceptance of an abandonment tendered, unless there is some agreement which relieves against the legal effect of such act.

The essence of the entire doctrine is that it is upon the high probabilities which the insured must act and not upon the actualities; that it is the estimates upon which the doctrine proceeds and not upon actual cost, because after the repairs are once made it is too late to abandon.

COMMERCE OF PORTAGE LAKE CANAL.

Capt. Charles L. Potter, government engineer at Duluth, has just completed his report of the commerce of Portage lake canal for 1903. It shows that a total of 2,420,948 tons of freight, valued at \$67,663,818.95, passed through the canal. There were 2,563 up-bound passages through the canal and 1,871 down-bound passages. Following is a comparative table of commerce for the past seven years and an itemized table for last year:

FREIGHT BOUND UP AND BOUND DOWN THROUGH PORTAGE LAKE SHIP CANALS AND VALUATIONS FOR SEASONS OF 1897 to 1903, BOTH INCLUSIVE.

| | Bound up, tons. | Bound down tons. | Total freight bound up and bound down. | Total valuation of freight bound up and bound down. |
|------|-----------------|------------------|--|---|
| 1897 | 730,843 | 289,880 | 1,020,723 | \$34,044,268.85 |
| 1898 | 960,924 | 406,761 | 1,367,685 | 39,254,415.50 |
| 1899 | 974,328 | 607,841 | 1,582,169 | 54,994,843.70 |
| 1900 | 1,190,527 | 677,245 | 1,867,772 | 57,880,129.05 |
| 1901 | 1,248,815 | 867,819 | 2,116,634 | 56,876,480.65 |
| 1902 | 1,460,415 | 1,071,908 | 2,532,323 | 65,326,818.80 |
| 1903 | 1,475,758 | 945,090 | 2,420,948 | 67,663,818.95 |

(All tons are of 2 000 lbs.)

ESTIMATED VALUE OF FREIGHT THROUGH PORTAGE LAKE SHIP CANALS, BOUND UP AND BOUND DOWN, FOR THE SEASON OF 1903.

| Items. | Designation. | Quantities. | Price per unit. | Valuation. |
|--------------------------|--------------|-------------|-----------------|---------------|
| Coal (Anthracite) | Tons | 101,429 | \$ 6.25 | \$ 633,931.25 |
| Coal (Bituminous) | Tons | 1,052,158 | 4.00 | 4,208,632.00 |
| Flour | Barrels | 474,909 | 4.50 | 2,137,090.50 |
| Wheat | Bushels | 635,037 | .79 | 501,679.23 |
| Grain (other than wheat) | Bushels | 297,914 | .48 | 142,998.72 |
| Flax seed | Bushels | 406,485 | 1.09 | 443,068.65 |
| Manufactured iron | Tons | 21,893 | 65.00 | 1,423,045.00 |
| Pig iron | Tons | 5,880 | 21.00 | 123,480.00 |
| Iron ore | Tons | 164,348 | 2.35 | 386,217.80 |
| Copper | Tons | 87,657 | 250.00 | 21,914,250.00 |
| Building stone | Tons | 23,294 | 7.00 | 163,058.00 |
| Limestone | Tons | 38,000 | 1.50 | 57,120.00 |
| Oil | Barrels | 27,853 | 7.00 | 194,971.00 |
| Salt | Barrels | 201,563 | .60 | 120,937.80 |
| Sand | Cu. yds. | 12,520 | .50 | 6,260.00 |
| Lumber | M. ft. B.M. | 297,898 | 15.00 | 4,468,470.00 |
| Logs | M. ft. B.M. | 17,787 | 12.00 | 213,444.00 |
| General merchandise | Tons | 185,001 | 165.00 | 30,525,165.00 |

Total \$67,663,818.95

(All tons are of 2,000 lbs.)

DULUTH-SUPERIOR COMMERCE.

The following summary of statistics dealing with the commerce of Duluth-Superior harbor, head of Lake Superior, is extracted from an elaborate report recently submitted to the war department by Capt. Charles L. Potter, United States engineer in charge of river and harbor improvements on Lake Superior.

CONDENSED STATEMENT OF COMMERCE AT THE HEAD OF THE LAKES, DULUTH AND SUPERIOR HARBORS.

| Year. | Receipts and shipments, net tons. | Valuation, receipts and shipments. | Number of vessels enter'd and departed. | Registered tonnage of vessels. |
|-------|-----------------------------------|------------------------------------|---|--------------------------------|
| 1895 | 6,325,351 | \$ 95,000,000 | 10,986 | 11,434,272 |
| 1896 | 7,886,833 | 111,676,900 | 10,948 | 13,353,068 |
| 1897 | 8,475,224 | 118,551,185 | 9,758 | 12,845,865 |
| 1898 | 10,127,261 | 142,643,020 | 10,870 | 14,135,237 |
| 1899 | 11,608,088 | 157,143,966 | 11,526 | 14,433,501 |
| 1900 | 11,725,245 | 135,109,196 | 11,334 | 14,387,068 |
| 1901 | 12,973,373 | 161,305,819 | 13,264 | 17,245,719 |
| 1902 | 17,505,793 | 194,444,695 | 15,866 | 23,811,275 |
| 1903 | 17,966,718 | 177,594,212 | 14,098 | 23,250,358 |
| Total | 104,593,886 | \$1,293,468,993 | 108,658 | 144,896,363 |

Capt. Edmund Fitzgerald, an old shipmaster, died at Port Huron last week.

PHYSICAL DISADVANTAGES OF CANADIAN FAST LINE.

At present Canada is much exercised over the prospective fast line to Britain, in which it is contemplated to make the journey from Montreal to Liverpool in six and one-half days. Some interesting comment is now being made in the Dominion upon the enterprise. It is difficult to credit the establishment of a fast line in view of the record of losses along the St. Lawrence route during the past few years. In 1898 three total losses occurred out of five strandings; in 1899 there was one complete wreck out of four; in 1900 four ships were destroyed out of five which went ashore; in 1901 there were seven strandings but no total losses; in 1902 the same good fortune befell with a total of eleven strandings, while in 1903 two ships went to pieces out of fifteen which took the ground. The last year was, therefore, the worst of all, for the monetary loss must have been far greater owing to the large number of strandings on which claims had to be paid.

It must be noted, moreover, that this total of fifteen serious mishaps the last year has occurred in spite of the substantial improvements to aid in navigation which the Canadian government has effected. The total of mishaps is not attributable to increased shipping, for during the season of 1903, 777 ocean-going steamers of 1,883,160 tons were entered at Montreal, against 736 steamers of 1,553,404 tons in 1902, so that the increase in vessels or tonnage would not excuse the great augmentation of shipping disasters, especially involving such noticeable instances as the total loss of the big Elder-Dempster liner Monterey on the Miquelon islands in July, for which the captain, under the official inquiry, was held solely to blame.

A Canadian fast line has never been attractive to capitalists. The dangers of the Newfoundland coast line are well known and an all-year service must involve two or more terminals. The St. Lawrence route comprehends three distinct highways from the Grand Banks to tidewater:

First—The winter route, between England and Halifax, N. S., passing across the Grand Banks south of Cape Race, and used from Dec. 1 to April 30, while the St. Lawrence gulf is blocked with ice.

Second—The spring route, between England and Montreal, rounding Cape Race, traversing the south coast of Newfoundland, and entering the Gulf of St. Lawrence by Cabot strait, which separates Newfoundland from Cape Breton; this route used from May 1 to July 15, when Belle Isle strait becomes clear of ice.

Third—The summer route, between England and Montreal, passing through Belle Isle strait, north of Newfoundland, and separating that island from Labrador; this route used from July 15 to Nov. 30, when it is again blocked with ice.

The proposed Canadian turbine boats, to ply by way of Halifax in winter and by way of Sydney, N. S., and Montreal, in summer, are heralded as a "fast line," but the most superficial study will show that it can in no way be compared with the existing New York services. In the first place, the Belle Isle route, as above described, is abandoned. That is 230 miles shorter than the Cape Race track, and under similar weather conditions admits of a voyage being made in fifteen to twenty hours less. But to proceed by way of Belle Isle involves ignoring the mail and passenger requirements of the maritime provinces, seeing that all the steamers reach and leave Montreal without any other stop. Proceeding by way of Cape Race, however, and touching at Sydney both ways, the provincial needs can be met to the greatest advantage, though at the cost of sacrificing the prime claim of the route to be considered a "fast" one, seeing that the increased distance, together with the time certain to be lost at Sydney, means prolonging the voyage nearly twenty-four hours.

Another argument against Belle Isle strait, and one of substantial value, is that it is narrow and tortuous, with treacherous tides and currents, and the sheer, rugged, unlighted coast veiled in fog nearly always, while fogs and bergs beset the approaches, and the array of natural obstacles is enhanced by a surprising lack of safeguards, which could be provided. The strait has been the theater of many harrowing shipwrecks of late years, and must continue to form a dangerous sea road, as fog, ice and storm cannot be effectually neutralized by any human agencies. Yet the present Canadian steamship lines use it during the summer months, because it is so much shorter; though, naturally, they cannot make speedy runs unless the weather is most favorable.

The chief drawback for Canada is that the Cape Race route is little, if at all, better than its more northern rival in this respect. The conditions as regards ice and fog are much the same, and the fickle, unchartable currents carry a ship to destruction upon the rocks as often almost as they sweep her clear of all danger. Furthermore, during the summer months, when traffic over this course is at its greatest, there are one thousand to fifteen hundred fishing vessels at work on the Grand Banks, collision with which is nearly certain if ocean steamers race through that region at full speed, while contact with bergs is equally inevitable, owing to dense fogs hiding every obstruction from sight until the ship is just upon it. Cape Race has more wrecks and disasters to its discredit from these causes than any other great trade route in the world.

The ocean steamer bound from England to Canada is first threatened by fog off the Grand Banks. Then she has to risk contact with ice as she nears Newfoundland. Following that is the danger of going ashore near Belle Isle or Cape Race. Afterward, her journey is continued for three days through inclosed waters bristling with reefs, islets and shoals. On her eastern voyage, too, she has to run almost 1,000 miles before she is in the open sea, clear of Newfoundland and free from all the perils

of constricted areas. The New York liners, on the contrary, ply south of the banks, and have an open course for their whole voyage, except for a few hours when nearing land on either side. Thus, while the distance from Liverpool to Quebec is only 2,660 miles as against 3,130 from Liverpool to New York, the fact that the liners on the latter route follow two distinct tracks, east and west, which do away almost entirely with the risk of collision, and enable them to keep up their best speed for the whole run, while the Canadian ships must make one-third of their voyage under reduced steam, neutralizes any advantage their route might possess, even if they were as fast as the New York boats.

But the proposed steamers are not of such speed, nor is it proposed that they should be. Nominally 21 knots, they will do about 20 in practical service, and will thus be handicapped in speed by their rivals, while they will be unable to do more than crawl through fogs, flocs and fishing smacks between the Banks and Quebec, or vice versa.

Another feature of the Canadian scheme is that the service is to be only a weekly one, whereas New York has now almost a daily service. Thus, only the leisured class of Canadians, who could postpone their trips to suit the boats, would patronize them, the majority of travellers, especially from the west, certainly preferring the daily service by way of New York. There might be some inducement to tempt a large clientele for a Canadian line, if operated with 25-knot boats and making a four and one-half day trip, but with 21-knot boats and a six day voyage at the best, few passengers would travel to such obscure seaports as Halifax or Sydney to join a Canadian liner, with the poorest facilities in every respect. Nine-tenths of ocean voyagers wish to enjoy themselves for a day or two in London, Liverpool or New York before or after a trip. They are not possessed by a demon of unrest, which urges them on like a flying Dutchman. They seek leisure and ease, and no man or woman is going to sacrifice the pleasure of a visit to New York for a stay in a Canadian seaport of 30,000 people, without hotels or other accessories in keeping with the luxurious elegance of a modern ocean liner. For this, if for no other reason, the Canadian line is impossible.

But another and still more important argument against it is that the ocean terminus is really not the natural base for the Canadian line at all, but only a junction, Montreal being the real strategic center. New York, for instance, is the great assembling point for the whole United States. A traveller counts his journey as starting from there. Montreal occupies an analogous position as regards Canada. The passenger boards his ship in New York, and six days later is on British soil. The Canadian traveller joins his ship in Montreal, and is two days in reaching Sydney, from which port her ocean voyage is regarded as starting; or, if he prefers to come to Sydney and join her by rail, he is thirty-six hours in doing so. Therefore, his whole journey occupies seven and one-half to eight days. Actually, allowing for the twelve hours from Montreal to New York, it would mean saving a day on the entire journey to take that route rather than to travel by rail or ship to Sydney and start the voyage from there, while a man can make the New York connection daily, but the Canadian only weekly. Then, Sydney is the easternmost town in Cape Breton, to reach which from Nova Scotia proper involves crossing Canso strait, a channel a mile wide, at present served by a ferry, which takes an hour to cross. So it is idle to suppose that such a route can ever find favor with travellers until that strait is either bridged or tunnelled, and either will involve five or six years' work.

The present winter indicates clearly the conditions the Canadian liners will have to face for nearly half the year. The Grand Banks are swept with storms and cumbered with ice flocs, so that liners have been much delayed, those to Canada occupying twelve and fourteen days, and even those to New York experiencing more or less delay, so that the difficulties of winter navigation in the more northern areas may be easily imagined. The business aspect of the matter is no less interesting. There are plying by way of New York six first-class steamship lines—the American, the Cunard, the White Star, the Hamburg-American, the German Lloyd and the French—besides many other second-class lines, with which may be included the inferior boats of the foregoing. The "greyhounds" carry about three hundred and fifty saloon passengers each way weekly, for one of each line is plying in opposite directions. The inferior boats carry full loadings, also, in most cases, of persons not pressed for time and making the longer passage at a cheaper fare. Every one of these boats is the equal of, if not superior to the best Canadian ships. The small traffic by the latter route does not warrant the larger outlay necessary for quicker ships. The greatest number of saloon passengers eastward from Montreal was carried by the Parisian on June 7, 1902, the coronation party, including Lord Minto and suite, provincial premiers, military officers, and many visitors to London for the fetes, making 137 in all. The westbound boat to Montreal that week had, for probably like reasons, the smallest number—fifty-five in all. Doubling these figures—192—to allow for passengers by other lines—makes a total of 384 saloon passengers by way of Canadian ships that week, or less than any of the New York first-class liners carries each way in a single trip. This leaves it clear that if a fast Atlantic service is established by way of Canada, the ships can only count upon two hundred passengers each way, and even that can only be done if they draw away from the other ships now running their whole passenger trade. The crack New York liners glean their complements from all over the United States, and leave an abundance for the inferior boats, also.

COALING STATION IN THE PHILIPPINES.

Of far reaching international significance is the energy with which Secretary Moody is urging upon congress the necessity of the immediate establishment of a large naval station in the Philippine islands at Olongapo, which shall be the home base for the American navy in the far east. The secretary has requested an immediate appropriation of \$800,000 though the complete work will cost \$10,000,000. The secretary, in his hearing before the naval committee, declared that this station was absolutely necessary to the efficiency of the Asiatic fleet, especially in time of war. In view of the vast interests in Korea and in Manchuria of the United States naval strategists point to the fact that the Asiatic fleet has fallen heir to one of the most difficult and important missions which the navy has been called on to perform, namely the protection of these interests against the Russian advance in Manchuria and the rapid Japanization of Korea. As the connecting link in this chain of fortifications which the general board of the navy shall extend from the Pacific coast to the far east, an enormous coal depot at Kiska, one of the Aleutian islands, has been planned. The general board in its recommendation to the secretary urges the immediate construction of this depot, which is within 250 miles of the great circle route. It is desired that the depot shall have an initial capacity of 20,000 tons of coal, to be increased as soon as possible to 100,000 tons, the total cost of the station to be \$1,500,000. A large part of this amount will be expended in fortifications of Kiska. The general board recommends that the army be called on to garrison the depot, the strategic importance of which it is declared by military strategists of the army and navy can scarcely be overestimated.

It should be stated that the original suggestion for the establishment of a coaling station in the Aleutian islands came from Admiral Royal B. Bradford, who recently resigned as chief of the bureau of equipment to assume command of the battleship Illinois. Admiral Bradford prepared a great deal of the data on the subject, and it is largely the valuable information about the Aleutians and their strategical value of the navy prepared by him upon which the general board has based its recommendations.

It is planned to send a naval collier to the Aleutians in the spring carrying a number of naval officers who will make further survey of Kiska island and the vicinity. There is an admirable harbor at Kiska—in fact, its only objectionable feature is the frequent presence of heavy fogs. This, however, is a characteristic of that part of the Pacific.

Rear Admiral Glass, commanding the Pacific station, took his squadron to the Aleutians last year and made an inspection both of Dutch harbor and Kiska islands. The harbor at the former point is the better of the two, but Kiska has been selected as the site of the proposed depot because it is considerably nearer the great circle route, and also because there is already a private coal depot at Dutch harbor.

EXPORTS DURING 1903.

The value of the merchandise passing out of the ports of continental United States in 1903 was more than \$1,500,000,000. While the figures issued by the department of commerce and labor through its bureau of statistics show "total exports" of \$1,484,681,995, they do not include the shipments from the United States to Hawaii or Porto Rico, and if these were added they would bring the grand total to over \$1,500,000,000.

While the omission of the shipments to Porto Rico and Hawaii from the grand total of exports is fully justified by the fact that those islands are now customs districts of the United States, it is proper to include those shipments with the total of exports in considering the growth of the export trade during recent years, since prior to 1900 the imports from and exports to the Hawaiian islands were included in the statement of foreign commerce of the United States, and that this was also true with reference to the imports from and exports to Porto Rico down to July 1, 1901. Since those dates, however, the commerce with those islands has not been included in the statements of foreign commerce, but stated separately by the bureau of statistics in a group of tables showing the commerce between the United States and its non-contiguous territory. Commerce with the Philippine islands, Guam, Tutuila, etc., which have not yet been made customs districts of the United States, is still retained by the bureau of statistics in its totals of foreign commerce, though the details are separately stated in the group of noncontiguous territories above referred to, as are also the detailed figures of trade with Alaska.

Any attempt to compare the export figures of 1903 with those of years prior to the year 1900 for the purpose of determining the growth or percentage of growth would, for the reasons above named, require the inclusion of the figures of the shipments to Porto Rico and Hawaii in 1903. They are, respectively, to Porto Rico, \$11,819,895, and to Hawaii, \$11,812,142, or a total of \$23,632,037. Adding this to the total of exports to foreign countries in that year, given by the bureau of statistics as \$1,484,681,995, would bring the grand total to \$1,508,314,032, the sum necessary to be used for comparative purposes in stating the growth of our export trade as compared with the years prior to 1900.

Turning to the import figures and adopting the same plan of including the merchandise received from Hawaii and Porto Rico, the figures for 1903 exceed \$1,000,000,000 dollars for the first time in any calendar year. From Porto Rico the value of merchandise received into the United States in 1903 was \$10,152,923, and from Hawaii \$29,519,731, and those, added to the imports from foreign

countries in that year, bring the total merchandise received into the ports of the United States in 1903 up to \$1,035,119,829.

ANNUAL REPORT OCEANIC STEAMSHIP CO.

The annual meeting of the Oceanic Steamship Co. was held in San Francisco last week. President John D. Spreckels submitted his annual report, showing receipts and disbursements for the past year as follows: Receipts, \$2,033,243.23; expenses, \$2,262,173.11. The expenses accordingly were \$228,928.88 in excess of receipts. The loss for the year preceding was \$348,633.30. The president's report further stated:

"In our last annual report reference was made to the drouth in Australia which had seriously affected the business of all steamship lines having terminals in that country. We are pleased to state the country is now rapidly recovering from this misfortune, but in the meantime the result has been an unsettled condition of business during the past year, incidental thereto. Notwithstanding this fact our service in the colonies has resulted in a slight gain for this year in the operation of the steamers Sierra, Sonoma and Ventura. The Tahiti branch may be considered very satisfactory, resulting in a profit for the year of \$8,309 as against a loss for 1902 of \$19,275.38; due in a measure to increased business but more particularly to the decreased cost of operation by reason of the installation of oil. The same may be said of our direct Honolulu service, which also makes a very satisfactory showing as a result of the oil-burning equipment of the steamship Alameda, a saving of \$53,001.14 in fuel and wages having been effected in the sixteen voyages performed during the year. The company's fleet and property has been maintained at its high standard of efficiency during the year, and with the return to normal conditions in Australia we may justly expect to see the company placed on a far more favorable footing. We have therefore every reason to feel that the result of operations for 1904 will offer a much different and more favorable showing."

The following board of directors were then elected: Claus Spreckels, John D. Spreckels, Adolph Spreckels, Frederick Tilman, Jr., E. F. Preston, H. E. Bothin and W. D. K. Gibson.

POWERFUL PLEA FOR AID TO SHIPPING.

A very potent and powerful plea for aid to American shipping was made by Samuel S. Sewall of the ship building firm of Arthur Sewall & Co., Bath, Me., before the senate committee on the Philippines. He appeared before the committee to argue in favor of the extension of the coastwise navigation laws to the Philippines. In the course of his examination Mr. Sewall made this statement:

"I submit that neither the war department nor any bureau in that department is warranted in holding up a great industry, the American ship building and ship owning industry, with all which that implies, for the sake of saving a few dollars a ton on 6,078 tons of general merchandise sent from New York to the Philippines, or several times that amount. While in Tacoma last summer I saw a British tramp under charter to the war department loading lumber for the Philippines, and within view were several American ships laid up at anchor with no business obtainable which would pay their operating expenses. When in Honolulu last summer I found that much of the coal coming there for the use of our navy department came by foreign vessels, and, worst of all, French subsidized vessels, the total of whose operating expenses is paid by the French government, so that whatever freight they get is clear gain to their owners. We are receiving coal for our navy department through such a channel in Honolulu. My ships are seeking that business. I am offering tonnage to the bureau of equipment of the navy department; I offered them tonnage only the other day when they wanted a ship for Yokohama. They wanted one for the Philippines, too, and they wanted one for Honolulu not long ago. I offered them a ship at \$6.25 to carry in the vicinity of 5,000 tons of coal from Norfolk to Honolulu, and I think I made the same rate to Yokohama. My ship was turned down; \$6.25 is exactly the rate I am receiving on coal. Two cargoes are on the way today from Baltimore to San Francisco. It is paid by San Francisco merchants—that is the rate paid—and it is the market rate in that trade; there is no extortion. My ships were turned down because our navy department could obtain foreign ships at a lower price."

Senator Lodge, chairman of the committee, asked Mr. Sewall how much lower the price was. Mr. Sewall replied that they had bid \$6.25 per ton while the foreign price was something over \$5 a ton. Mr. Sewall also complained that it was practically impossible for American ships to compete with French sailing vessels on the Pacific coast owing to the fact that the French vessels are given a bounty which enables them to actually sail 15,000 miles in ballast. Therefore, whatever freight they get, no matter how small, is clear profit. Mr. Sewall added that such conditions were certainly not encouraging to the ship building industry of the country.

Senator Heyburn has introduced a bill in the senate providing for the deposit of a model of any vessel of war of the United States navy bearing the name of a state or city of the United States in the capitol building of the state and in the city hall of the city named. The secretary of the navy is directed to have such models constructed and they are to continue as the property of the government.

AROUND THE GREAT LAKES.

The Iroquois Iron Co. has sold the steamers Fred Mercur, and H. E. Packer to the Tonawanda Iron & Steel Co.

Mr. L. W. Powell has been elected vice-president of the Pittsburg Steamship Co. He is a resident of Duluth.

A sale of 13,000,000 ft. of white pine has just been made by the Hines Lumber Co. at Duluth to a Toronto firm to go to England and the Hague.

The work of raising the decks of the steamer Tampa up to the top of the old rails is progressing rapidly at Detroit. The rebuild will give her greater carrying capacity.

Plans for a new steamer to cost about \$600,000 were exhibited at the annual meeting of the Goodrich Transportation Co. at Chicago this week. The plans describe a vessel 320 ft. long and of the most modern construction. Nothing definite was decided concerning the building of the steamer.

If present plans do not miscarry, Muskegon is to have a new life-saving station in the spring. Lieut. J. E. Reinberg, inspector of the life-saving station for that district, has been at Muskegon making a survey of the south side of the channel where it is proposed to locate the new station.

The government is engaged in a novel undertaking in Benton harbor. The lighthouse has been set on rollers and is being moved about 1,000 ft. in the lake. The work was caused by the extension of the main pier into Lake Michigan and the lighthouse will be moved to the end of the pier.

Maj. W. L. Fisk of the United States lake survey, who will have charge of the office of the United States engineer at Detroit, from which Maj. Bixby has been temporarily relieved, has taken charge and will continue to transact the duties of both offices until Lieut. Col. Davis reaches Detroit in the summer.

The tug Aldrich of the Reid Wrecking Co. while assisting the tug Sarnia in breaking ice in St. Clair river to make a passage for the Pere Marquette ferry, opened a seam and sank to the bottom. The tug settled so quickly that the crew escaped with but little time to spare by jumping to the ice and making their way to the other tug.

Mr. A. P. Lyman, who was once an extensive owner of vessel property, died at Sheboygan Saturday. He built the schooners Homer and Cortland, which in their day were large and handsome craft. The Cortland was destined to have a short career, for she collided with the steamer Morning Star the first year of her existence. The steamer went to the bottom with the loss of many lives. The Homer is still in commission. Mr. Lyman has been in retirement at Sheboygan for many years.

James Corrigan of Cleveland has ordered from the Electric Launch Co., Bayonne City, N. J., a large gasoline cruising yacht. Her length will be 95 ft. over all, 16 ft. beam and 4 ft. draught. She will be equipped with a six-cylinder Standard marine engine of 200 H. P. She will be lighted with electricity, including a powerful searchlight. She will have a tank capacity of 2,000 gallons of oil which will enable her to cruise about 2,000 miles. Two tenders will be supplied, one equipped with an engine of 1½ H. P.

The combined revenue of the Duluth, Missabe & Northern and the Duluth & Iron Range roads for 1903 was \$8,700,000. Both of these roads are owned by the Steel Corporation and between them they transported from the mines in Minnesota to the shipping docks at Two Harbors and Duluth about 10,475,000 tons. Of the revenue described \$4,100,000 is credited to net earnings. The Duluth & Iron Range road led in earnings from the ore traffic. The Missabe road hauled more ore, but the higher cost of transporting the Vermillion ores is supposed to have overcome the difference in tonnage.

At the annual meeting of the Northern Navigation Co. held at Collinwood last week, the report of the directors for 1903 showed net earnings of only \$29,456 as compared with \$88,519 in 1902. The balance brought forward from 1902 was \$15,725, so that after paying a dividend of \$42,000 for 1903 the company carried forward \$123 to 1904. The following board of directors was elected: E. B. Osler, W. D. Mathews, C. D. Warren, Toronto; William Hendrie, Hamilton; W. J. G. Loppard, Waubamshene; John J. Long, H. Y. Tiefer, C. E. Stephens, Collinwood; F. A. Lett, Barrie; H. J. Smith, Owen Sound. The directors accepted the resignation of Charles T. Long as general manager with headquarters at Sarnia.

At the annual meeting of the grand lodge of the Shipmasters' Association, held in Marine City last week, the association decided to ask the Canadian department of marine and fisheries to place a fog whistle at Colchester in place of the bell now located at that point. The government will also be requested to paint all lighthouses white so that they may be more readily discerned. The purpose of this is to aid in distinguishing them, the argument being that almost any background will throw white into relief. Congress will also be petitioned for magnetic ranges for waterways where the shipmasters believe they are needed, such as at Hay lake and Mud lake. A harbor of refuge will also be requested near Rogers City. It is pointed out that from the Straits of Mackinac to Thunder bay is a stretch of 70 miles without shelter. Of course the large modern carriers do not especially require shelter in any sort of weather on Lake Huron but it sometimes goes hard with the smaller class of craft.

The first labor contract to be made this season between a labor union and a vessel owners' association was entered into this week at Detroit between the International Longshoremen, Marine & Transport Workers' Association and Charles W. Kotcher and H. L. Wilton, representing the unloading committee of the Lumber Carriers' Association. The contract affects only the port of Detroit, but on account of one big concession in favor

of the unloaders it may have an important bearing on future contracts of the same kind during the season. For many years past there has been considerable dispute in regard to the amount of lumber carried on various boats, the union only having the bill of lading to go by. It has been claimed that these have been tampered with, and the longshoremen got the worst of the transaction. According to the contract the longshoremen, before they touch a boat, may demand not only the bill of lading but also the inspector's bill showing the amount of cargo. In case of dispute both parties appoint an arbitrator, and should these be unable to agree a third party may be called in to settle the controversy.

Capt. Charles F. Potter, the United States engineer in charge on Lake Superior, has recommended that the present breakwater at Marquette harbor be extended 1,500 ft. at an estimated cost of \$303,000. The proposed extension would add about 129 acres to the harbor, of which area about ninety acres would be of water 18 ft. or deeper. The present breakwater shelters an area of about 200 acres, of which 125 acres has a greater depth than 18 ft. It is figured also that the proposed extension will furnish protection to all of the ore docks and prevent the undertow which now causes vessels to tug at their lines while at the docks. The present length of the Marquette breakwater is 3,000 ft. and the work of transforming it into concrete was in progress last season and will be continued this year. About \$500,000 has been expended on the breakwater by the United States government. Capt. Potter says that the Marquette harbor is much used as a place of refuge and he is unofficially informed that as many as thirty-two vessels have occupied the harbor for that purpose at one time. Marquette is one of the most important harbors on the south shore, and is a port of entry, Superior being tributary to that district. Its commerce in 1896 was 1,832,061 tons and 3,110,709 tons in 1902.

FRANK R. SMITH GETS NEW OFFICE.

Mr. Harry Coulby, president and general manager of the Pittsburg Steamship Co., has appointed Mr. Frank B. Smith as chief engineer of the company's fleet of steamers. Mr. Smith has been assistant superintendent of the fleet since the Steel Corporation was formed. He is one of the most popular men on the lakes. He has had forty years' experience in lake trade, having spent, however, many years ashore. The last steamer on which he sailed was the Joliet of the Lake Superior Iron Co.'s fleet, and when the boats of that company were sold to the Pittsburg Steamship Co., which at that time only operated the Carnegie vessels, Mr. Smith was appointed chief engineer of the fleet by Mr. Edwin S. Mills, who was manager of the company. When a number of the steamship lines were consolidated and Mr. A. B. Wolvin was made manager of the Pittsburg Steamship Co. Mr. Smith was appointed assistant chief engineer. It is not likely that Mr. Smith will have an assistant, but he will be relieved of most of his office work. Capt. W. W. Smith will continue as marine superintendent of the steamship company, the place he has held since the organization of the Steel Corporation.

Mr. Coulby has created a new position and has appointed W. W. Watterson superintendent of repairs. Mr. Watterson is a well-known ship builder and has had charge of several plants on the lakes. He was superintendent for the Ship Owners' Dry Dock Co. before the consolidation of the lake yards. Later he was with the American Ship Building Co. at Lorain and Buffalo. He resigned as superintendent of the Ship Owners' Dry Dock Co. of Chicago to accept the position with the Pittsburg Steamship Co.

RESIGNS FROM STEEL CORPORATION DIRECTORATE.

The resignation of Mr. John D. Rockefeller from the directorate of the United States Steel Corporation has absolutely no significance whatever, but the newspapers seem to think that it has meant a serious difference of opinion somewhere. While Mr. Rockefeller is in a great variety of enterprises he is on the directorate of very few of them. His interests are usually represented by other persons. In keeping with his policy he has never attended a single meeting of the directors of the Steel Corporation and probably never would attend one. His reasons for resigning are both natural and sensible. He desires his place to be taken on the directorate by someone who can give direct attention to the business.

VESSEL CONSTRUCTION DURING JANUARY.

The bureau of navigation reports that forty-six vessels of 13,992 gross tons were built in the United States and officially numbered during January as follows:

| | WOOD. | | | | STEEL. | | TOTAL. | |
|------------------------|-------|-------------|--------|-------------|--------|-------------|--------|-------------|
| | SAIL | | STEAM. | | STEAM. | | No. | Gross tons. |
| | No. | Gross tons. | No. | Gross tons. | No. | Gross tons. | | |
| Atlantic and gulf..... | 13 | 2,815 | 13 | 755 | 2 | 839 | 28 | 4,409 |
| Porto Rico | | | | | | | | |
| Pacific | 2 | 1,450 | 2 | 405 | | | 4 | 1,855 |
| Hawaii..... | | | | | | | | |
| Great Lakes..... | | | | | 2 | 7,154 | 2 | 7,154 |
| Western rivers..... | | | 11 | 533 | 1 | 41 | 12 | 574 |
| Total..... | 15 | 4,265 | 26 | 1,693 | 5 | 8,034 | 46 | 13,992 |

Of these the two largest were the Duluth, built at South Chicago, and Pere Marquette car ferry No. 14, built at Detroit. No steel sailing vessels were built during the month.

TO REVISE LAW RELATING TO MARINE BOILERS.

The boiler manufacturers have determined to make a vigorous effort to secure the passage of a bill authorizing the creation of a commission to revise the laws relating to the construction, installation and inspection of marine boilers. This bill was originally drafted by the American Boiler Manufacturers' Association and was introduced in the last congress, but owing to the lateness of the session was not passed by either house, although favorably reported by the senate committee on commerce. With a view to securing favorable action at the present session the subject was brought to the attention of the house committee on merchant marine and fisheries last week. Mr. E. D. Meier, president of the Heine Safety Boiler Co. of New York, and chairman of the American Boiler Manufacturers' Association, and William H. Fletcher of the W. & A. Fletcher Co. of Hoboken, N. J., appeared before the committee. Mr. Meier's statement was in part:

"This legislation is earnestly desired by a great many boiler manufacturers, but many other classes would be benefited to a most important degree by its enactment. The legislation which bears on the subject of the inspection of vessels, and especially of boilers and steam machinery, is very antiquated. A great many of the laws were passed twenty-five and even thirty years ago, and they do not fit present conditions. Today we are carrying much higher steam pressures on land as well as on water, and entirely new devices, new designs and new machinery are in use, so that the operation of these antiquated laws has become very irksome. These considerations bear chiefly on the construction of boilers and engines, and therefore the American Association of Boiler Manufacturers, which extends over the whole United States and embraces some members in Canada, has taken this matter up. The manufacturers of steel plate for boilers and vessels, the builders of engines and ships the owners of ships and the insurance men are all vitally interested and are with us in this movement. After very careful consideration, which has now extended over a period of two years, we come before you to state our conviction that there is no way of properly adjusting this matter except by appointing a special commission to hear the views of all who are interested and to harmonize them in the form of a mutually satisfactory measure. There are at least seven definite interests that we could mention, all of which will be heard by the commission, and we do not hesitate to say that the decision that might be reached by an expert commission on any technical point will be satisfactory to all concerned.

"The methods which prevail under the present law are causing greater hardship each year. The board of supervising inspectors meet once a year in Washington. Any one who has felt the burden of some ill-considered rule can come before them, and if he can make a good demonstration of his point the inspectors will usually pass a rule for his relief. Now, some of the men who compose the board of supervising inspectors have knowledge of hulls, some are old steamboat captains, but generally very few of them are engineers or experts in boilers. The result is that it frequently happens that regulations adopted at the January meeting of the board, while relieving certain interests, impose hardships on others, but after the meeting has adjourned there is no redress for a whole year, and the situation is therefore most unsatisfactory to all concerned. I have found the inspectors willing to take a reasonable view of all questions, but they are hampered by the law and by their system, and they have no authority to make such a comprehensive revision of the regulations as would be satisfactory to all interests, even if they possessed the necessary technical skill.

"The laws and regulations governing the manufacture and inspection of boilers are of the most importance to American vessels engaged in the foreign trade, and if we are to have our flag on all seas, as we hope to have it, our methods of inspection must compare favorably with those of the great maritime nations; otherwise the owners of American vessels will find that they cannot secure charters in the leading ports of the world. We hope that this commission will include representatives of the commercial, manufacturing, maritime and military interests. The technical questions concerning the manufacture of plate, rivets, boilers, engines and the construction of ships should be understood in a technical sense by one or more members of the commission, but it is of the highest importance that the navy and revenue marine service should be represented on the commission, for in case of a foreign war we must look to the merchant marine for auxiliary cruisers and they must always be constructed and fitted out in such a manner that they can be used with little or no change, so that a naval officer going abroad will be accustomed to conditions which he finds prevailing on these vessels, especially with reference to their motive power.

"Aside from the beneficial effect of the work of an expert commission in revising these laws relating to marine boilers, an important advantage would accrue to steam users throughout the country. We already have ample evidence of this in the fact that since the rules for the manufacture and inspection of boilers were first adopted in this country, forty years ago, the cities and towns along the navigable waters have adopted ordinances based on these rules and steam users in all parts of the country are to a very great extent controlled by local regulations based more or less upon the federal laws. If the government through an expert commission would consider this subject carefully and frame an up-to-date statute, the whole country would quickly follow and the plans, specifications and regulations of the federal government would be in use everywhere.

"Some time ago there was a ruling in regard to steam pipes

and steam connections, the rule being so drawn that the construction was actually larger than the boiler, and thus what was intended to be an element of safety was an element of danger. Not long ago a first-class boiler manufacturer, whose name stands high in the trade, built a boiler in Buffalo. It was inspected and pronounced in every way up to the highest standard; but the local inspector in the Alaska district, who was far from being an expert, would not pass it. It frequently happens that a blue print is rejected in one district after having been accepted in another. Not long ago a boiler plate tested and stamped by the inspector in the Pittsburgh district was sent down to Mobile for a boiler originally built in Pittsburgh, but the local inspector at Mobile would not accept it without a special test made in his own district. Of course with a harmonious set of laws on the subject such an incident could not occur."

Mr. Fletcher followed Mr. Meier, indorsing what he said, and, referring to his own experience, declared that his firm frequently refused to build boilers according to specifications approved by supervising inspectors, for the reason that such boilers would not be safe. He desired it understood that the blame in such a case should not attach to the inspector but to the law, which he felt obliged to follow in spite of his knowledge that it was not appropriate to modern conditions. The bill was approved by the committee and Representative Grosvenor presented it to the house.

ROOT'S SECOND LETTER TO FRYE.

Secretary Root of the war department has written a second letter to Senator Frye in opposition to his bill to limit the trade between the United States and the Philippines in so far as it concerns government supplies to American ships. It is the department's contention that while they have been fairly successful in getting vessels from the Pacific coast at reasonable rates they have been totally unsuccessful in getting them from the Atlantic coast. The full text of Secretary Root's letter to the senator is as follows:

"I am sorry you were dissatisfied with my letter about the bill limiting the transportation of government stores to American vessels. I very much desire that the business should be done by American vessels, and I have been for several years trying in various ways to get from congress authority to prefer our own ships to foreign ships. It has seemed to me that the simplest and best way was to give our ships a preference. Two years ago I tried to get authority to give them a preference of 10 per cent. and the bill was beaten in the house. I said in my letter to you that I would be in favor of increasing the percentage to 25 or 30 per cent. I would be perfectly willing to see you go farther than that and extend the limit of the preference to 50 or even 100 per cent., if necessary, but I do not think that there ought to be an absolute prohibition imposed upon the officers of the government when it is not imposed upon any of the rest of the business community. I have no objection to the business of the government being subjected, in common with the business of the citizens of the United States generally, to the operation of a general policy such as embodied in the navigation laws regarding our coastwise trade. Such laws, wisely, I think, make all American business tributary to American shipping, and the result is, naturally and necessarily, to induce an adequate supply of shipping to do the business. But a statute which limits government freightage alone, separate and apart from the business of the community at large, to American shipping, under a hard and fast rule which prohibits to the managers of the government business the same facilities and opportunities which are afforded to the rest of the community, will not be adequate to attract American ships and lead them to engage in the business of which the government freight forms a small part. There is not enough government business to justify any such expectations. The result of such a special provision would, therefore, naturally be either that the government must pay whatever the casual American vessel chooses to ask, or must operate its own transports on the Atlantic, at great loss, or must ship all of its stores by way of the Pacific, imposing upon the material going from the Atlantic coast the very heavy railway charges across the continent. The result of such provisions, tying the hands of the government officers, is not merely to cause greater expense in specific cases, but it is to dishearten the officers and lead them to feel that it is useless to try to conduct business economically. While I think that the best way to accomplish what the American ship owners and ship builders desire, and what I desire equally with them and with you, is to authorize the preference, stated in terms of a percentage, I do not mean to say that this is the only way. I think you could accomplish substantially the same thing by the present bill by adding at the end of section 2 a clause something like the following:

"That any head of a department may suspend the operation of section 1 in regard to any particular contract for the transportation of such articles whenever, after due public advertisement, no bids for the transportation of the articles specified therein, in a vessel of the United States, shall have been received at rates which shall be deemed to be reasonable, in view of the policy of the government to promote the employment of vessels of the United States for public purposes."

"Section 2 as it now stands apparently contemplates the general suspension of section 1, under circumstances of special exigency such as to justify appeal to the president for the protection of the interests of the government. I should think it would hardly justify going to the president in matters of detail, such as are constantly arising in letting contracts for transportation of comparatively small quantities of stores."

AMERICAN MERCHANT MARINE.

Interview with Congressman Sulzer, Author of the Sulzer Bill for the Upbuilding of the American Merchant Marine.

By Geo. W. Ramage.

New York, Feb. 3.—As considerable interest is being manifested by ship builders, ship owners and shipping interests generally in the movement under way to find a means for the upbuilding of the American merchant marine on the high seas, to the end that it may take its rightful place among the merchant navies of the enlightened nations of the world, and as the *Marine Review* of Dec. 3 last contained the full text of a bill on the subject introduced in congress on Nov. 9 by Representative Wm. Sulzer of New York, I have thought readers of the *Review* would probably be interested in learning something of the views of the author of the bill. Accordingly I sought and obtained an interview with Mr. Sulzer in his office at No. 11 Broadway.

Before giving an account of interview, perhaps a short description of the man and his personality may not come amiss. On meeting Mr. Sulzer the visitor who is at all familiar with portraits of the late Kentucky statesman, Henry Clay, is struck with the resemblance between the two, both as to form and features. In fact the resemblance is so striking that his friends, I am informed, often refer to him as Henry Clay Sulzer; and well they may, for as I conversed with him it was easy to imagine that time had turned backward three quarters of a century and I was in the presence of the great Kentuckian. Still, I presume there is a difference between the two, as climatic influences would naturally cause this. One can imagine the famous Clay was a typical Kentuckian, while Mr. Sulzer is a typical New Yorker, and those familiar with the two types are aware that while the Kentuckian is inclined to take life easy, dislike hurry and abominate rush, the New Yorker is given to a hurry-up mode, both in business and politics.

While Mr. Sulzer is as gracious and condescending as his Kentucky prototype is reputed to have been, there is an air of business about him which impresses the caller with the fact that time is valuable and business needs to be gotten to at once. But after all, this is a case of necessity with him, as he is one of the busiest men in busy New York city, and during sessions of congress his stay in the city does not exceed one day a week, which makes his time to devote to callers all the more limited. There is generally a string of visitors in his reception room awaiting their turns for an interview, and it is with limited railway speed that they are ushered in and out of his private office, indicating his great capacity for business and expertness in handling men, as all issued from his presence with a satisfied expression on their countenances. Besides his personal callers, his telephone bell is kept working overtime, necessitating the attendance of a clerk to answer calls, which, like a busy man's mail, have to be sorted by the clerk and only the important ones switched into the private office. Even then the congressman is interrupted every four or five minutes by the ring of his 'phone, between which interruptions he converses with a caller or attends to his correspondence. Under these circumstances I considered myself fortunate in being able to secure an interview with Mr. Sulzer for the purpose of securing for the *Review* his expression as to the needs of American shipping and the chances for congressional legislation in behalf of same.

Handing in my card, with explanation of my mission, I was soon ushered into the presence of the author of "H. R. 34," entitled "A bill to regulate commerce with foreign nations, to make preference for the use of American vessels, to extend the postal service by sea, and to promote American commerce." I received a hearty welcome and a hand-shake that had real heart in it, and spoke more eloquently than any mere words could possibly do in proof of the fact that the heart was back of the hand in the struggle for the betterment of American shipping, or would be in any question that enlisted his sympathies.

"Mr. Sulzer," I said, "the *Marine Review*, recognizing you as a friend to the American merchant marine, would like an expression of your views as to its present condition, and what is necessary to place it in its former position, prevailing prior to 1861." To this he replied:

"You are right in rating me as a friend of our shipping industry. In fact, not only am I a friend now but I always have been and expect to remain so, and, recognizing its importance, am an enthusiastic advocate of proper legislation by congress that will aid in re-establishing the supremacy of the American merchant marine."

"What, in your opinion, is the cause of the present low ebb of the industry?" was my next question.

"It is owing to adverse conditions brought about by the want of adequate laws for its encouragement, in default of which American shipping, and consequently American ship building, has been practically destroyed. Since 1860 merchant ships flying the stars and stripes have gradually decreased until at present they have almost disappeared from the high seas. This is very manifest when we consider that today more than 95 per cent. of our exports and imports are carried in foreign bottoms. This, I say, to our shame. It is a crying evil and must be remedied."

"How does our present merchant marine on the high seas compare with that of former years, and how do we rate in comparison with other nations?"

"Our registered ocean freight in 1810—nearly one hundred years ago—was 108,000 tons greater than it is now. While that of other nations has increased with time ours has decreased. A comparison of the registered freight tonnage, for deep sea com-

merce, of several nations, shows the lamentable state into which American shipping has been allowed to fall. For instance, Italy has a tonnage of 1,180,000 tons; France 1,480,000 tons; Norway 1,660,000 tons; Germany 2,960,000 tons, and Great Britain 14,800,000 tons, while that of the United States amounts to but 872,000 tons. A comparison of statistics on the subject shows conclusively that less than 5 per cent. of our exports and imports are at present being carried in American vessels; a state of affairs redounding to our everlasting disgrace, and for which the United States congress must be held responsible."

"That doesn't speak very well for the greatest nation on earth, especially considering our great stretch of sea coast," I remarked.

"It does not," he responded. "As a people we are given to flattering ourselves that we are in the lead in all that makes to a nation's greatness, but, as a matter of fact, we are at the foot of the class, among enlightened nations, in one of the greatest factors of national wealth and strength—a merchant marine. The ships of other nations carry our products to the markets of the world and bring the products of other countries to our shores. According to the report of the bureau of statistics of the department of commerce and labor for the fiscal year of 1902, our total exports to Europe in that year amounted in value to \$997,614,762 (almost a billion dollars), of which enormous amount but 1 3/4 per cent. was carried in American vessels, 98 1/4 per cent. being transported in ships of other countries. We imported from Europe goods to the value of \$474,927,159 and of this but a little over \$30,000,000 worth was carried in American ships. Of the total imports and exports for the year, from and to Europe, amounting in value to the vast sum of \$1,472,591,921, only 3 1/4 per cent. was carried by American vessels."

"A very poor showing for American shipping when the volume of business is considered?" I ventured, to which he replied:

"It is indeed. Our merchant marine is simply insignificant when compared with the volume of our commerce. They stand in inverse ratio to their position prior to 1860, for while we have lost in ships we have gained in commerce. But our gain in commerce has come as a natural sequence to the rapid development of our wonderful natural resources, the great productiveness of our country and the unexampled consuming capacity of our people for the necessities and luxuries of life, which, per capita, greatly exceeds that of any nation on earth. Hence our commerce has had to grow and increase whether our statesmen willed it or no, until today we are daily exporting merchandise to the value of about \$5,000,000, and it is a sad commentary upon our commercial greatness that these exports must be carried in foreign ships. The tribute we pay in money to foreigners for conveying merchandise, from and to the United States, amounts to over \$300,000,000 a year. Quite an item, isn't it?"

To which I nodded assent, and he proceeded:

"Our country is foremost among the nations of the earth in nearly all lines of industrial and commercial developments and pursuits, except in its ocean merchant marine; but I am pleased to note that the patriotic pride—not to mention business sagacity—of the American people is at last asserting itself and is demanding legislation at the hands of congress that will enable our merchant marine to regain its former supremacy and glory."

"Mr. Sulzer," I asked, "as you have been active as a member of congress in pushing legislation in aid of our merchant marine, can you tell me why nothing in that direction has as yet been accomplished?"

"Ever since I have been a member of congress I have been doing every thing in my power to have some law enacted that would enable the American merchant marine to regain its lost prestige, and make it possible for American ships, flying the American flag, to carry not only American products but those of foreign countries as well, as was the case in former days. There are three remedies proposed for the relief of American shipping by those who have given the subject their best attention:

"First, we have free ships, which is the old, honest, American plan; but the Republican members of congress will never agree to a bill for free ships, because they believe such a measure would be a death-blow to their pet doctrine of protection. It is impossible, therefore, to pass through this or any other congress having a Republican majority a free ship bill.

"Then we have as the second proposition ship subsidies in accordance with the provisions of the Hanna-Payne ship subsidy bill. This plan, however, meets with much opposition from those who are opposed to the doctrine of protection, for protection's sake—to the unjust taking of money from the pockets of the people generally to build up any special industry, on the ground that its principle is radically wrong and untenable. Democrats generally are opposed to ship subsidies, or bounties, because it is a policy that robs the many for the benefit of the few; because it is class legislation, favoritism, and because it is undemocratic, un-American and unconstitutional. In my opinion, it will be impossible in this congress, or in any other congress, to pass a ship subsidy or bounty bill such as Mr. Hanna and some of the leaders of the Republican party advocate. It would be just as logical to give a subsidy or bounty to the potato producers and wheat growers of the country.

"The third proposition to build up the American merchant marine is by means of discriminating duties in favor of American ships. I have introduced several bills in different congresses to bring this about. In my opinion, it is the most feasible, the most practicable, the most honest and the most popular way of aiding the American merchant marine. This policy of discriminating duties was instigated by Jefferson, followed by Madison

and indorsed by Monroe. It successfully built up our shipping industry in the early days of the republic. It received the endorsement of the Republican national convention in 1896, and William McKinley favored it in his letter of acceptance. William P. Frye, now president of the senate, and other leading thinkers and writers upon the subject throughout the land, irrespective of party affiliations, are in favor of it, as it is absolutely non-partisan, strictly American, and is today the only possible plan.

"On the first day of this session of congress I introduced my bill to promote the American merchant marine. It is in favor of discriminating duties on goods, wares and merchandise, exported from or imported into this country in American bottoms, carrying the American flag. It will, if passed, solve the problem by restoring our merchant marine to its former position, build up our ship building industry and give us a great auxiliary navy. It is simple, just and fair, and would not take a dollar from the taxpayers of this country. I spent considerable time in the preparation of this bill, and it has been approved by commercial bodies all over the country, and by some of the ablest writers and thinkers on the subject. As it affected protective duties, the speaker, of course, referred it to the committee on ways and means, instead of sending it to the committee on merchant marine and fisheries. I have endeavored to get a hearing on this bill but thus far without success, and it is apparent to me that the Republicans in the house, especially those on the ways and means committee, do not intend to take the matter up during this session of congress. They do not want this subsidy question made an issue in the coming campaign. If this bill, or one similar to it, containing substantially its provisions, should be enacted into law, I am satisfied the problem would be solved, and the United States in a few years would become the mistress of the seas. It would restore to us our ocean carrying trade, build up our ship building industry, and give employment in our ship yards to thousands and thousands of men in all parts of the country. It would do more than any other one thing I know of at present to bring about an era of general prosperity such as we have never known before in our ship building, shipping, commerce and merchant marine industries, and make the American sailor what he was in the historic days of the republic, the master of the seas, hailed in every port.

"It is apparent at the present time that the Republican majority in congress is afraid to attempt to pass the Hanna ship subsidy bill. The Republicans intend to do nothing about it until after the presidential election, except to appoint a commission to report to the next session of congress in December of this year proposed legislation for the development of the American merchant marine on ship subsidy lines. This plan of procrastination will meet with considerable opposition from the Democrats in congress, who are opposed to delay and who furthermore object to congress abrogating its functions in favor of any commission whatever, because they know the history of such commissions almost invariably shows that their work has been both useless and expensive.

"I believe if my bill, introduced in the house on Nov. 9, 1903, could be brought to a vote in congress this session it would meet with the approval of a majority of its members, and if enacted into law would accomplish all that is desired to speedily restore the prestige of the United States in the ocean carrying trade of the world."

OUR FIRST STEAM WARSHIP.

Warwick James Price in New York Mail & Express

Even in a day of wars and rumors of wars, with articles upon the relative strength of navies as common as stock quotations or weather reports, it is seldom recalled that the first steam battleship the world ever saw was built by an American for America. The story of the Demologos is an all but forgotten incident in naval annals, yet she was the wonder of her day and her career, before her mysterious and tragic passing, quite picturesque enough to warrant the retelling. Planned by Robert Fulton, built by order of James Madison, the Demologos appears in history in 1814. Those were days when the good folk of the towns along the Atlantic seaboard walked in fear of attack from English ships, and slept lightly through troubled dreams. Our fleet of privateers had borne themselves gallantly and well at sea, but the coast lay unprotected. President Madison and his advisers at Washington were quite as much concerned over this as the fisherman of Maine or Delaware—and then came Fulton with his proposal of a "floating battery."

The strange little craft of his suggestion corresponds most nearly perhaps to what we of today might call an unprotected gunboat for coast and harbor service, but she had "freak" features. In addition to the boilers that were to supply steam for the first time to a fighting ship she was to be fitted with furnaces in which her shot might be heated before firing. In addition to her twenty-six 32-pounders she was to carry four guns, two forward and two aft, which it was planned should be hung over bow or stern, as the case might be, with the idea of discharging heavy shot into the side of an enemy well below the water line. She was to be fitted with pumps and pipes through which large quantities of water might be spouted upon the decks and into the ports of her adversary. "She will be the most formidable fighting ship ever constructed" wrote Mr. Fulton in conclusion.

The scoffers laughed and the objectors argued, but James Madison approved and worked to such good purpose that on March 14, 1814, the houses of congress appropriated \$220,000 to

build the craft. Fulton was named engineer, and before June had passed the keel had been laid in the New York yards of Adam & Noah Brown. On Oct. 29 she was launched, the focus of a national celebration, with thousands gathered along the river fronts and upon the shipping that filled New York bay to cheer, not the "Fulton the First," as the president had suggested the vessel be christened, but the "Demologos," or "Defender of the People," a name chosen by the designer himself, who turned to the classics as well as to the elements for his inspirations.

She was a mighty craft. The boiler over which the doubters shook their heads in fear was 22 ft. long, by 12 wide and 8 deep. Her 2,475 tons were to be driven by a water wheel 16 ft. in diameter. She was 156 ft. over all, 56 ft. beam and her greatest depth was 20 ft.

This is how the commission intrusted by President Madison with her construction described the Demologos: "She is a vessel resting upon two keels, separated from end to end by a canal 15 ft. wide and 66 long. One section contains the caldrons of copper to prepare her steam. The vast cylinder of iron, with its piston, levers and wheels, occupies the other. The great water-wheel revolves in the space between. She is propelled by her enginery alone. The main, or gun, deck supports her armament, and is protected by a bulwark 4 ft. 10 in. thick of solid timber. This is pierced by port holes to enable her 32-pounders to fire red-hot shot; her upper, or spar, deck is plain."

Small wonder that England was terrified! One of the London journals whose agent in New York had gathered his information through many devious channels gave this account of the Demologos under the line "Terror of the Seas:" "Length on deck, 300 ft.; breadth, 200 ft.; thickness of sides, 13 ft., of alternate oak plank and cork wood; carries forty-two guns, four of which are 100-pounders, the quarter-deck and fore-castle guns being 44-pounders. Further to annoy an enemy attempting to board her, she can discharge 100 gallons of boiling water a minute, and by mechanism brandish 300 cutlasses with the utmost regularity over her gunwales; works also on an equal number of iron pikes of great length, dashing them from her sides with prodigious force and withdrawing them every quarter of a minute."

But this marvelous and dreaded vessel never faced an English foe. She made her trial trips, three of them, in the summer of 1815, establishing a "record" of 53 miles in 8 hours without her armament, and of 5½ miles an hour when fully fitted. And then—just as she might have cut for herself a place in history, with her red-hot shot and boiling water and "submarine" guns, peace with England was declared! The good Demologos was never put into commission. What had a country at peace with all the world to do with so formidable a craft? She is completed, they said at Washington, and she can be got ready for service at short notice. Send her over to the new navy yard at Brooklyn. And so the "terror of the seas" crossed the bay and steamed up the East river, and was anchored off the flat that lay abreast of the station in those days, when river and harbor improvement committees were things not yet imagined. And there for fourteen years she watched the changing seasons, her protected wheel, unholed, asleep in its well, her water unboiled and her shot unheated, yet not wholly useless, for she was the receiving ship.

The end came on a June evening in 1829, came suddenly, mysteriously, tragically. There were visitors aboard, examining perhaps those four famous "submarine" guns of which such mighty things had been expected, when there came an explosion—and the Demologos lay a ruined and blackened wreck, with twenty-five dead upon the decks that had never before been stained with blood. This much the official reports tell, though they throw no light on the cause of the catastrophe. And so closed in bloodshed the peaceful career of the world's first steam battleship.

PENSION FOR CREWS OF LIFE-SAVING SERVICE.

A very creditable measure has been introduced in the senate by Senator Frye and in the house of representatives by Representative Lovering providing for a pension for members of the life-saving crews. These men who are exposed at times to great hazard are paid only \$65 per month for eight months in the year and out of that slender pittance have to provide their own board. There is no continuity of employment guaranteed to them and no provision whatever for old age. Supt. Kimball of the life-saving service, recognizing the injustice of this, drafted the bill which is now before the house and senate. It provides for retirement on three-quarters pay after thirty years of service. The bill is, indeed, a very reasonable one and ought to pass. It will, if passed, do much to improve the personnel of the service for it is natural that every man should desire to make provision for his old age. The fate of the life-saving crew of Mononoy is mentioned in the argument in favor of the bill. All the members of this crew, with one exception, lost their lives in endeavoring to save the crew of the barge Wadena which had gone from the lakes to engage in coast service. It was upon this occasion that William Mack of Cleveland lost his life. A meeting of the committee on interstate commerce will be held on Tuesday of next week to consider the bill.

Arthur Sewall & Co., Bath, Me., say: "Our ship building plant is at present shut down. We build mostly for our own account and the high price of ship building material, the high and unsettled condition of labor and the low ocean freights form a combination which is too much for us just now. When these conditions improve we shall build additional tonnage."

ITEMS OF GENERAL INTEREST.

The steel elevator under construction for the Montreal harbor commission will be ready for use in May.

William H. McWhinney, Aberdeen, Wash., has one steamer under way now, but has recently completed a great many lighters.

Four steamers belonging to the Nippon Yusen Kaisha have been taken over by the Japanese government as auxiliary cruisers.

Commissioner of Navigation Chamberlain has ruled that all gasoline launches of over 5 tons burden must carry a licensed engineer.

Rear Admiral Harris, paymaster general of the navy, has entered an energetic protest against the creation of a general staff of the navy.

The Greenwich Yacht Yard, Greenwich, Conn., are at present building five 15-ft. raceabouts for Mr. Joseph P. Graves, St. Augustine yacht club, Florida.

Senator Nelson has offered a bill in the senate authorizing the construction of a lighthouse and buoy tender for the inspector of the eleventh lighthouse district.

Representative Meyer has introduced a bill in the house of representatives appropriating \$200,000 for the construction of a revenue cutter for the Gulf of Mexico.

Representative Cushman has offered a bill in the house of representatives appropriating \$100,000 for the construction of two revenue cutters for service in Puget Sound.

Thomas W. Dunn of the ship building firm of Dunn & Elliott, Thomaston, Me., died last week of old age. He was eighty-three years old and had just retired from business.

The Ollinger & Bruce Dock Co., Mobile, Ala., are building a three-masted schooner for the Mahogany Lumber & Transportation Co. of Mobile, Ala., to be 154 ft. long and to cost \$25,000.

Rear Admiral George Wallace Melville, retired, formerly engineer-in-chief of the navy department, has gone to Europe in company with George Westinghouse to study turbine machinery.

The Collingwood Ship Building Co., has received a contract to construct a new set of triple-expansion engines for the steamer Wexford. A contract for new boilers had previously been let to the same company.

The trial last week of the Mongolia, built for the Pacific Mail Steamship Co. by the New York Ship Building Co., Camden, N. J., was successful in every way. The new steamship will leave in about ten days, via the Suez canal, for China.

The army transport Thomas arrived at Honolulu on Jan. 8 from San Francisco in 6 days, 20 hours and 20 minutes, breaking all transport records between these two ports. The best previous record was made by the Sherman in 7 days and 4 hours.

The Riter-Conley Manufacturing Co., Pittsburgh, Pa., report that they built during the year past one large oil barge and reconstructed two others. Their field is at present much limited, but in time they expect to go into the boat business on quite a large scale.

Elmer A. Ely Middletown, Conn., has the following small craft under way: Fishing boat for M. Bill, East Hadden, Conn.; 19 ft. long; 6 H. P. gas engine; Fishing boat for A. Beckwith, Clinton, Conn.; 20 ft. long; Drey & Prior gas engine. He is also building several yacht tenders from 19 to 26 ft. in length.

Gov. William H. Taft took the oath of office as secretary of war this week, succeeding Elihu Root as secretary. Gov. Taft has previously served in the Philippines. Gov. Taft rendered eminent services in a judicial capacity during the Spanish-American war and has been a leading figure in government circles since. Secretary Root resigns to engage in legal practice in New York. His private interests, of course, have suffered greatly since he became secretary of war.

At the annual meeting of the American Association of Masters & Pilots held in Washington recently the following officers were elected: John C. Silva, grand captain, Boston; H. G. McCallum, grand first pilot, Detroit; N. L. Cullin, grand second pilot, Camden, N. J.; Luther B. Dow, grand purser and counsel, New York; Benjamin F. Perkins, grand captain's clerk, Camden, N. J. Fifty-three delegates were present from the different harbors and there were several represented by proxy. A great deal of business was transacted, dealing mainly with legislative matters.

The Lozier Motor Co. of New York has the following work under way: Wooden cruising launch, 31 ft. long; Lozier 10 H. P. double-cylinder gasoline engine; cost \$3,000. Wooden oyster boat, 50 ft. long; Lozier 20 H. P. double-cylinder gasoline engine; wooden racing launch, 40 ft. long; Lozier 20 H. P. double-cylinder gasoline engine; wooden cruising yacht, 68 ft. long; Lozier 80 H. P. four-cylinder gasoline engine; hunting cabin cruiser, 28 ft. long; Lozier 7½ H. P. single cylinder engine. The company is also building 125 21-ft. launches, 125 25-ft. launches, twelve yacht tenders and several small racing boats; also six cabin cruisers from 30 to 36 ft. in length.

It is learned that the Cunard Line will begin a weekly Mediterranean service in April with steamships particularly adapted to that trade. The first of the steamships for the new line was purchased a short time ago and will be known as the Slavonia. Negotiations, it is understood, are now on for three other steamships. The Slavonia was built for British East India Co. by Sir James Laing & Co. She will sail from New York on April 26. She is a boat of 12,000 tons, expensively finished twin screws, and has a speed of about 14½ knots. The vessel can accommodate 200 cabin passengers. The third-class accommodations will receive particular attention. The names of the other three steamships under negotiation could not be learned.

AUTOMOBILE BOATS AND POWER LAUNCHES.

As a feature of the tenth annual Sportsmen's Show to open at Madison square garden, Feb. 19, the marine exhibit embracing automobile boats and power launches, together with various types of marine engines of varying horse power, will represent the most impressive display of this character yet held in the United States. Some five years ago, the marine end of the Sportsmen's Show began to assume important proportions and it has steadily grown, until the show management this year, to use a homely phrase, is "at its wit's ends" as to how to accommodate this class of exhibitors. The oldest and best known manufacturers of high power boats in this country and Europe will be represented at the coming show, and arrangements made by the show management are such as to offer them exceptional facilities for the advantageous display of their product. The show management has been compelled to precisely double the space that was originally set aside for the purpose, in order to meet the applications for space. On the floor of the amphitheater will be constructed a lake 190 ft. in length by 70 ft. in width. Surrounding this lake will be the exhibit space of power boat manufacturers. Each exhibitor will thus be provided with dock frontage and in addition to his attractively equipped reception room for the accommodation of visitors and guests, he will be afforded the privilege of having a trim model of his boat lying in the water close at hand into which prospective purchasers can step for a spin over the water of the lake. The full list of exhibitors of automobile boats and power launches who have secured space for the coming show follows:

Western Gas Engine Co., J. W. Newbury, Pierce Engine Co., C. H. Blomstrom Motor Co., Lozier Motor Co., Electric Launch Co., Panhard & Levassor, Eagle Bicycle Mfg. Co., Smith & Mabley, Hollander & Tangeman, the Standard Motor Construction Co., Gas Engine & Power Co., and Charles L. Seabury & Co., the Wm. H. Brodie Co., Lackawanna Motor Co., the Charles A. Strelinger Co., Buffalo Gasoline Motor Co., the White Graft & Power Co., the Fairbanks Co. and the American Darracq Automobile Co.

The Shelby Steel Tube Co. has just evolved a clever idea, being nothing more nor less than the sending out of its circulars in a piece of steel tubing, affording thereby an object lesson of the adaptability of cold drawn steel tubing. The catalogue itself is a work of art and illustrates beautifully the many uses to which tubing can be put.

The Montreal Transportation Co. has been given a new charter, which gives it extensive powers in connection with the forwarding of passengers and freight on the lakes and rivers of Canada, the owning and operation of elevators, etc. The capital is fixed at \$500,000 and the head offices are at Montreal.

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NOTE.—With the ordinary Gauge Glass Tube one cannot tell whether it is full or empty. When filled with WATER the REFLEX GAUGE always appears BLACK. When empty it instantly shows WHITE. No mistake possible. This feature alone is of greatest importance.

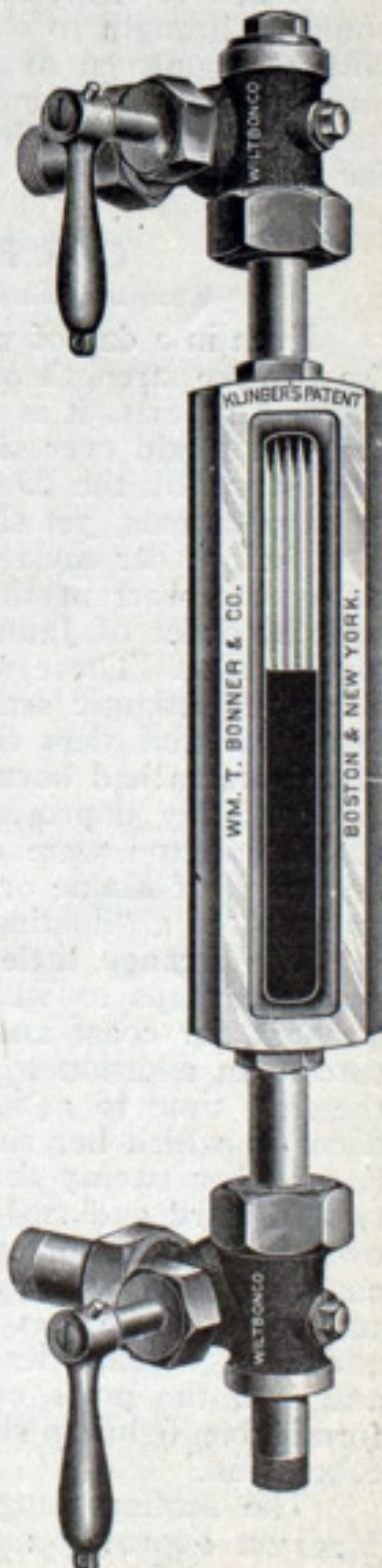
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SEEN AND HEARD ON THE LOOKOUT.

Again arises the question: "Should those in charge of gasoline motors be compelled to secure a license?" Yacht clubs are almost unanimously opposed to the project of passing a law that aims at the extinction of the amateur engineer of the explosive type of engine. Only the excessively rich can indulge themselves to the extent of possessing a steam yacht. But there is a sufficiently wide margin in the price of sail yachts and sail yachts to take ownership of some pleasure craft propelled by the wind out of the category of castles in Spain for even the poorer mortals. And then came the gasoline motor; easily handled, comparatively inexpensive, and ranging in size from the 2-H. P. engine for the modest open boat to the 40-H. P. machine to be installed in the more pretentious launch. Derogatory comments notwithstanding, though accompanied by an evil smell, and extensively advertised as needing a dangerous fuel to exert its power, the explosive type of engine was welcomed by the yearly increasing number of yachtsmen. To those of pronounced nautical inclinations who objected, on the one hand, to a sail boat because of the wind's summer vagaries, and whose means did not permit the purchase of a steam yacht, the motor boat appeared in the nature of a missing link. Such men could now even better enjoy a trip in their sloops or yawls when the presence of the unobtrusive motor—taking up an incredibly small space—gave assurance that the reaching of their destination need not depend upon such an uncertain factor as the wind. To compel the motor driver to hold a license would add expense to the running of a launch; deprive many owners of the pleasure of acting as engineers, and might, at least at first, cause a reduction in the number of engines ordered from the manufacturers. The manufacturers, however, are generally in favor of the passing of the law in question. A responsible manufacturer dreads frequent complaints from his customers in regard to unsatisfactory features of his product. And as many mishaps to motors that are due to the driver's inexperience have been laid at the door of the manufacturer the latter is desirous of some guarantee that the "man in charge" shall be capable. Timid passengers and outsiders even, who have heard more or less exaggerated reports as to the gasoline's potentialities, unhesitatingly declare themselves in favor of having licensed drivers. In this connection, however, let it be known that the expert, perhaps on the principle that "familiarity breeds contempt," is often more likely "to take chances" than his less experienced confrere. In the meantime, motors are selling like the proverbial hot-cakes; launches are being expressly built to accommodate these motors, and there are strong reasons for believing that next season they will be handled by the careful, painstaking, if unlicensed engineer.

The port of New York can rightfully claim the distinction of being the Liverpool of America. As is the case among individuals seaports also vie with each other in incessant attempts to acquire

the benefit, and incidentally the honor, of being the best, the largest, and the most influential. The abnormal growing propensities of transatlantic steamers necessitated—first, the deepening of the harbor approaches, and secondly, the extension of the piers' lengths. Having dredged the channel to the depth required by the modern steamer, the lengthening of the piers appeared a trifling matter. But the companies operating the largest boats as if to illustrate the truth of the saying "birds of a feather flock together," herded their steamers in close proximity to each other, either along the Manhattan or the New Jersey shores. These wharves, being unfortunately located at the narrowest part of the North river, the United States war department did not deem it advisable to grant a permission to extend the piers. Longer piers, as said before, having become a necessity, there remains for the steamship companies only the other alternative—the buying of about 200 ft. of New York's most expensive water front. The estimated cost of acquiring 900-ft. wharves by digging into this high-priced ground is \$10,000,000. Another solution of the question is to seek quarters elsewhere—and historic Boston makes a strong bid for this prospect of increasing trade. Situated nearer to Liverpool, having the largest dock in the world and with a splendid harbor within easy sailing distance from the Atlantic ocean, Boston must be regarded as New York's most dangerous rival. The Commonwealth dock in the former port, owned by the state of Massachusetts, is 1,200 ft. long. The state is also willing to build similar docks along the South and East Boston water front, should further indications warrant the necessarily heavy outlay. Though the port of Boston has never exactly been threatened with such a total collapse from former maritime greatness as has been the misfortune of the majority of Massachusetts harbors it was only in 1890 that a creditable revival in the shipping business gave an impetus to Boston as a prominent seaport. There are several reasons for the popularity of the White Star's Boston-Mediterranean service. Through early settlers along the shores of Cape Cod, Boston has become known as a mecca to dissatisfied Portuguese who probably never heard of New York. Then again, the irrepressible "padrone" is doing a brisk business in this eastern port, and his country men are rushed from Italy to Boston by the White Star's flyers. The Leyland Line sends steamers regularly from Boston to Manchester, while the Red Star boats trade from there to Antwerp. But though Boston may be said to stand on the tiptoe of anticipation of the cream of the Atlantic trade, New York will ultimately construct wharves of the required length—regardless of expense—to frustrate the realization of her rival's desires.

F. H.

The Standard Tool Co. of Cleveland have just issued a very serviceable calender for superintendents, master mechanics and shop foremen. It contains a great deal of valuable and practical mechanical information.

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| English Royal Navy | - | - | - | - | - | - | - | - | 929,300 " |
| Russian Imperial Navy | - | - | - | - | - | - | - | - | 227,500 " |
| Japanese Imperial Navy | - | - | - | - | - | - | - | - | 122,700 " |
| Austrian Imperial Navy | - | - | - | - | - | - | - | - | 56,700 " |
| Italian Royal Navy | - | - | - | - | - | - | - | - | 13,500 " |
| Chilian Navy | - | - | - | - | - | - | - | - | 26,500 " |
| Argentine Navy | - | - | - | - | - | - | - | - | 13,000 " |
| The "Messageries Maritimes" Company | - | - | - | - | - | - | - | - | 87,600 " |
| Chemins de fer de l'Ouest: (The French Western Railway Co.) | - | - | - | - | - | - | - | - | Steamships |
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NEW YORK NEWS NOTES.

Mr. Arthur Masters, naval architect, engineer and broker of New York has chartered the coast steamer David, owned by the Donald Steamship Co., to the Atlantic Coast Lumber Corporation, the charter being made with option of purchase. The vessel will be used as a lumber carrier from Georgetown, S. C., to New York. Mr. Masters has also lately given contract to the Standard Boat Co. of Long Island City, N. Y., for building a gasoline launch from his designs for Dr. C. B. Mathewson of Plainfield, N. J. The launch will be 55 ft. long, 10 ft. beam and 3 ft. draught, and is to be fitted up in yacht style with bath and other necessary adjuncts to a cruising launch. Her motive power will be a 20-H. P. Standard gasoline engine. Mr. Masters is also designing a three-masted auxiliary schooner yacht for Mr. Edward R. Cassidy of Altamont, Albany county, N. Y. She is to be 144 ft. over all, 116 ft. on water line, 30 ft. beam and 13 ft. 6 in. draught. Her auxiliary power will be a 40-H. P. Standard gasoline engine.

The Moulton Steering Engine Co. of 17 State street, New York city, has, within the past month, received orders to equip with their steam steering engine the following tugs: Solicitor of Newport, R. I.; Portsmouth of Portland, Me.; John W. Gilkinson of Hoboken, N. J., and the Hercules of New York. Capt. Colcord Upton, well and favorably known as an Atlantic coast pilot and master, is general manager of this company, and his experience as pilot and master of steam vessels for some years past, and his necessary experience with the requirements of steering gear, spoke volumes in favor of the Moulton when he connected himself with the company.

A well-prepared, illustrated pamphlet, just issued by the Geo. F. Blake Mfg. Co., 114-118 Liberty street, New York, describes recently developed power-house auxiliary machinery for vacuum making and boiler feeding. The list includes rotative dry vacuum pumps, vertical cross-compound, simplex, boiler feed pumps, admiralty type surface condensers with combined air and circulating pumps, vertical twin air pumps, combined pot-valve, outside-packed-plunger duplex feed pumps and centrifugal pumps for circulating condenser water. This apparatus has been designed to meet the exact requirements of steam turbine and reciprocating engine units of 5,000 to 10,000 H. P. capacity, using steam of 200 to 300 lbs. pressure per square inch. For the highest efficiency of each equipment the vacuum must be as close to the barometer as mechanical means can produce and it is to secure this end that the machines described in this pamphlet have been designed. The publication is numbered B-62 and will be sent upon request to those interested.

The 1904 catalogue of the Knowles Steam Pump Works, 114-118 Liberty street, New York city, is a book of about 150 pages showing nearly half as many full-page illustrations of different types of direct-acting steam pumps for boiler feeding, mine drainage, waterworks service, etc.; also electric and belt-driven pumps,

artesian well pumps, air compressors and ammonia pumps, both fly-wheel and direct-acting, jet condensers, relief valves, air and circulating pumps, wrecking pumps, vacuum pumps, sugar-house pumping machinery, etc., etc.; in fact, pumping machinery of every type and for every purpose found in engineering work. This catalogue will be supplied free upon request to those interested.

Vessels classed and rated by the American Bureau of Shipping, New York, in the Record of American and Foreign Shipping are: American screws Danville, Aztec, Benefactor, Colon and Missouri; Cuban screws Manzanillo and Yumuri; American schooners Henry F. Kreger, Helen Thomas, Eaglet, Salisbury, J. R. Teel; American three-masted schooners John M. Brown, Fred W. Ayer, S. P. Hitchcock, Jennie Lockwood; American half brig Atalanta; American barges Gusher and Spindletop; British barkentine Trinidad; British three-masted schooners Helen and Bartholdi; British topsail tern Rescue; and British bark Swansea.

OCEAN CABLES.

There are in operation today 252,436 miles of ocean cables, of which only 38,797 miles, or about 15 per cent., are owned by governments, the remainder being in the hands of private owners. Englishmen opened the first cable line—across the narrow channel between Dover and Calais on Aug. 28, 1850—and Englishmen still control larger mileage than any capitalists of any other country, and more than half the total length of the submarine lines. The British cables which connect London with all parts of the world have a length of 154,000 miles, of which 14,963 miles are owned by the government. Of the 139,136 miles owned by private companies the longest mileage is in the Australian and Oriental lines. The Eastern extension, Australasia and China Telegraph Co. controls 27,609 miles and the Western Telegraph Co. 19,880 miles. The most important of the British cable lines are the five that stretch across the North Atlantic, and also the first line stretched across the Pacific, which connects Vancouver with the Fiji islands, Norfolk island, Queensland and New Zealand, and which was opened on Dec. 8, 1903. Among the many British lines also are cables to South America and along both of its coasts. The United States is second on the list with 44,470 miles of cable, nearly all in private hands, the government controlling only a short mileage in Alaskan waters. The most important are the five lines across the Atlantic and the second great Pacific cable, completed on July 25, 1903, by the Commercial Pacific Cable Co., between San Francisco, Honolulu, Midway island, Guam and the Philippines. Another great line laid down by American capitalists is that on the Pacific coast between the isthmus of Tehuantepec and Valparaiso, Chile. France has the third place with a total length of 24,010 miles, of which 10,092 are the property of the state. The most important of the submarine connections of France are the two lines which connect Brest with the United States. Denmark is fourth on the list with 9,488 miles. Germany lags behind with 9,228 miles of cable, of which more than one-third is owned by the government. Its most important cable service is that between the island of Borkum, Fayal, and New York city. The seventeen other countries which take a financial interest in cables have altogether only 11,131 miles of lines, nearly all of them owned by the various governments. The country which figures to the smallest extent in this list is Bulgaria, with an ocean cable of about three-fourths of a mile long. Roumania beats her neighbor with a cable 4 1-3 miles long.

Secretary Cortelyou of the department of commerce and labor has recommended to congress that a light vessel, with fog signal, be established at Ambrose channel, New York, at a cost of \$90,000. He also desires a lighthouse at the axis of the east channel, now that the channel is deep enough to be used by vessels.

Representative Knapp has introduced a bill in the house of representatives to establish a life-saving station at Six Town Point, Lake Ontario.

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